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OL. 83 NO. 12

textile bulletin

DECEMBER • 1957

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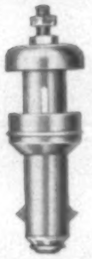
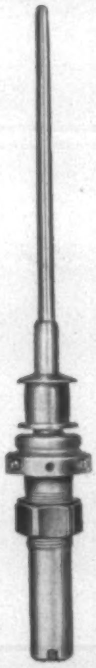
BPA NBP

Complementing each other



HARTFORD

Auto-latch Bobbin Hangers for easier creeling



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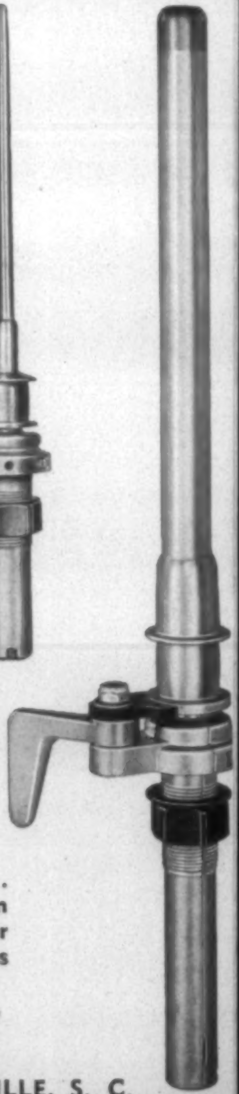
Ball Bearing Filling Spindles: Top Drive & Acorn Drive



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5 years, no lubrication
Spindles engineered for
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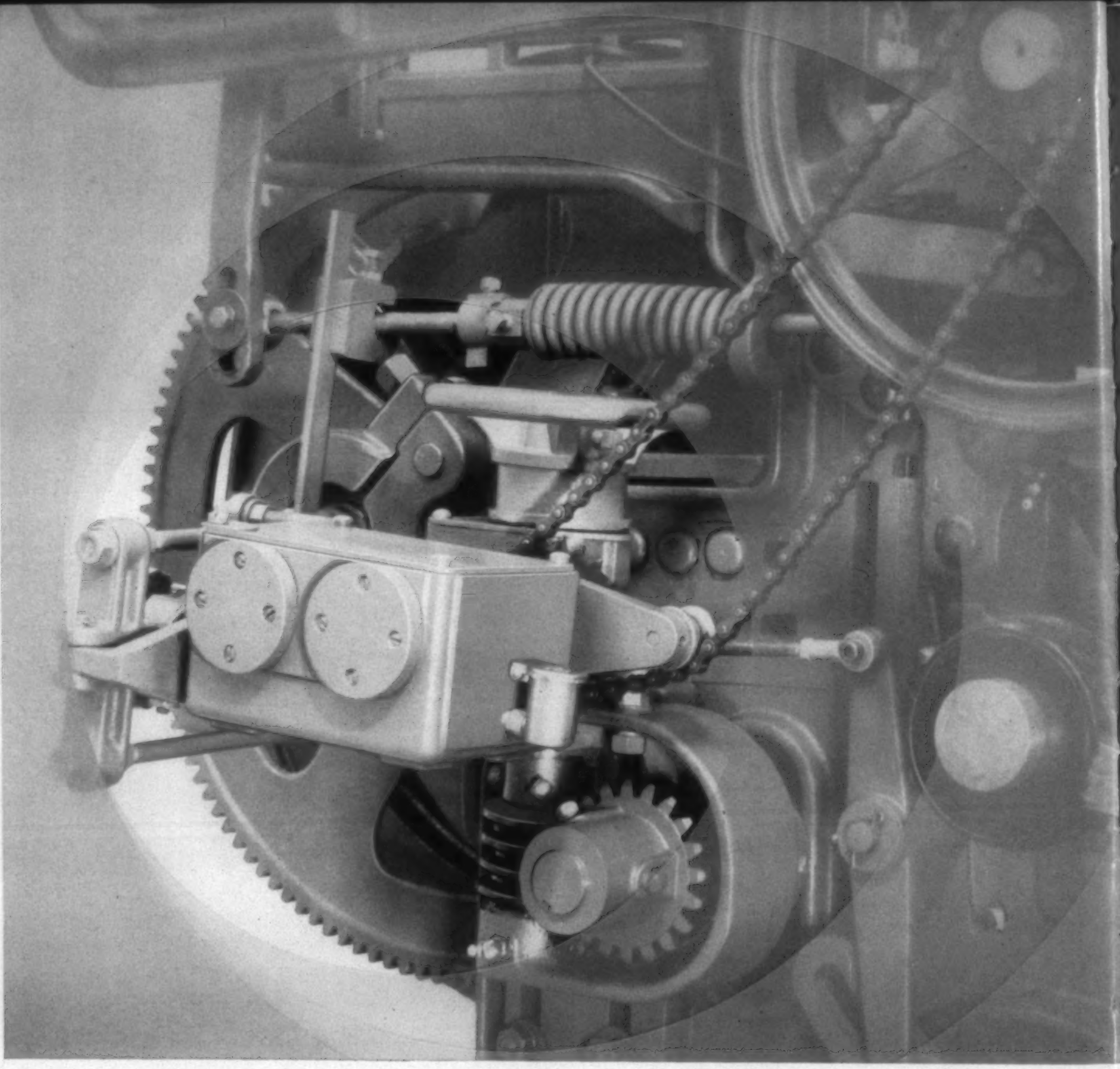

DRAPER . . . TRU-TENSION LET-OFF

The Draper Tru-Tension Let-off controls yarn tension *automatically*, from full to empty beam. This is made possible by *a positive, continuous drive* and a compensating friction transmission.

The "Tru-Tension," a compact, precision built mechanism eliminates many cloth defects commonly attributed to the Let-off.

Simplified design provides for fast, easy application. The new "Tru-Tension" may be applied directly to looms having the conventional #4 Automatic Bartlett. Looms equipped with other Bartlett Let-offs require a new Worm Wheel Shaft Housing.

Little or no adjustment is required from full to empty beam *once the initial settings are established*. On critical weaves, substantial savings are possible.

The Tru-Tension Let-off is currently available for X-2, XD, and XP model looms. For additional information on this and other Draper products, consult your Draper representative.

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Not a drop ever gets through because Jacques Wolf & Co. assures you consistent, unbeatable performance on any textile you waterproof. You can be positive there's a top quality Jacques Wolf chemical auxiliary carefully formulated to fit your individual job, giving you more complete, longer-lasting protection.

- **FOR WATER REPELLENCY:**

ALUMINUM ACETATE (7% Al_2O_3) Used for water-repelling textiles, generally in a two-bath method using soap solution first. Aluminum Acetate is a water-clear solution, contains no sulphates or chlorides and is iron free.

ALUMINUM FORMATE (SOLUTION [8% Al_2O_3] or POWDER [33% Al_2O_3]) Clear, water-white stable sulphate, chloride and iron free. General application same as Aluminum Acetate solution.

LUPOSEC* Used in one-bath method for showerproofing or water-repelling all textile fabrics. Does not alter shade of dyed goods and does not change the hand. Not affected by hard water. White emulsion cationic. An emulsion of waxes with aluminum salts which is stable in all concentrations.

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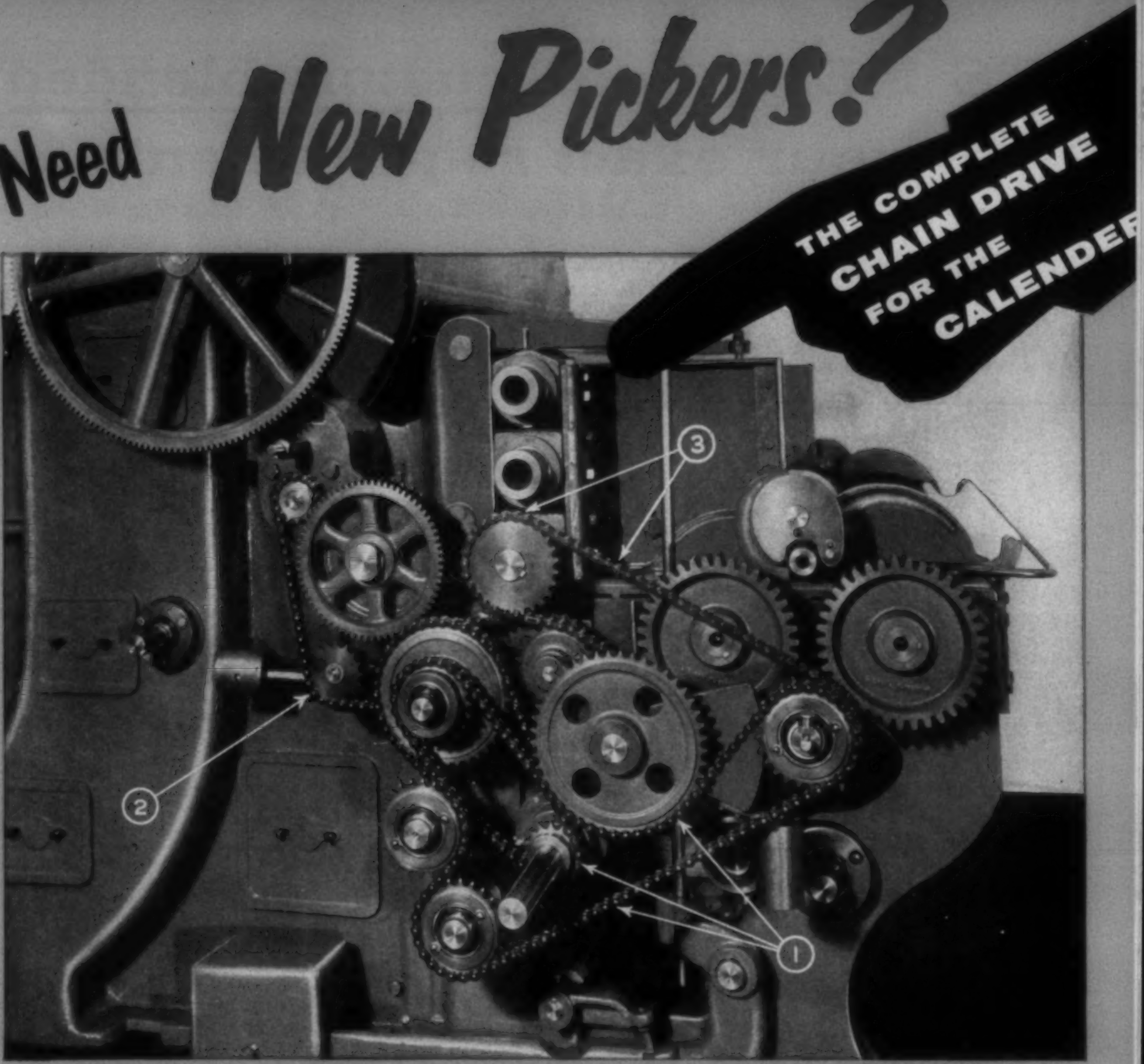


① The chain drive to replace the old 14/76-tooth gear drive. A silent drive of great flexibility.

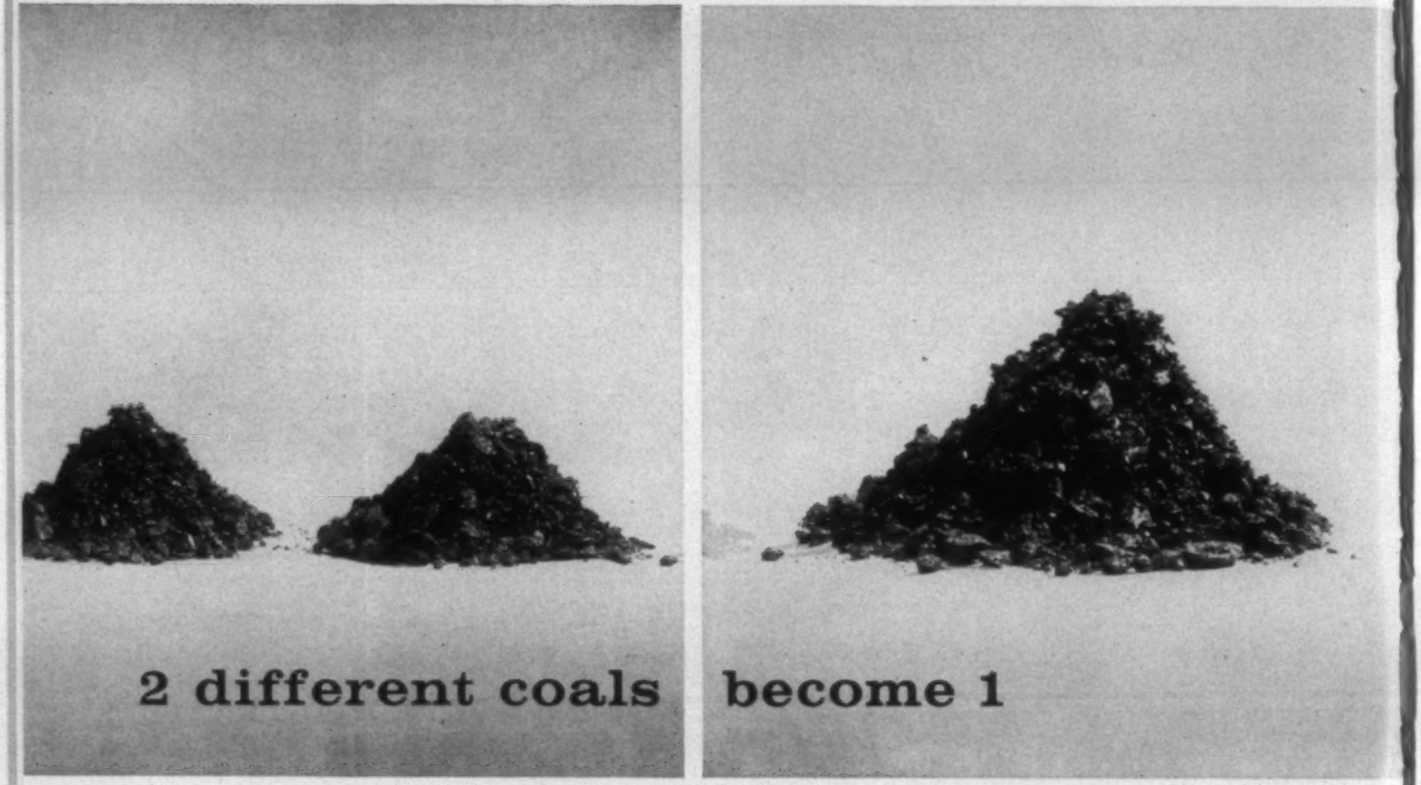
② The chain drive from the vertical calender rolls to the draw rolls and screens. A simple, silent drive which provides accurate control of the draft between the screens and draw rolls, and those rolls and the vertical calender rolls.

③ The chain drive from the vertical calender rolls to the fluted rolls. A silent flexible drive permitting close control of the draft between the vertical and the fluted rolls.

Note also the roller, on Oilite bearing, which holds the calender rack in place. This replaces the old shoe. The calender rack cross-shaft is on ball bearings—no binding!

AldricH MachinE WorkS
Greenwood, South Carolina

IT'S NEW! Coal-custom blended to your exact requirements



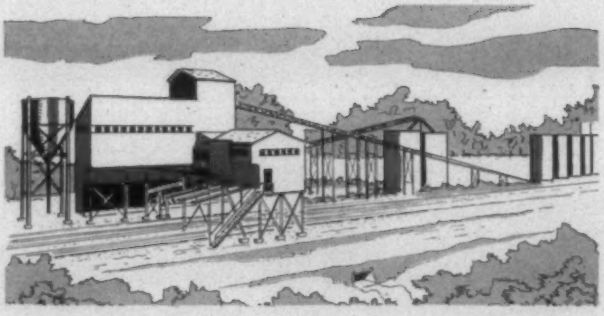
World's Finest Coal Blending Plant Makes this Possible

Now, rather than get coal of the approximate quality you require, you can get coal of exact specifications.

Garland Coal Company's new custom blending plant in Virginia makes this possible for you. The plant is located on the Norfolk and Western Railroad and has 6 loading tracks. The coal can be loaded in any size required and 6 grades may be prepared simultaneously.

Different coals are stored in individual hoppers. A large conveyor belt passes beneath. The engineer then releases varying amounts of coal from each hopper to custom blend a mixture of coals. You get exactly the high, medium or low volatile coal you want with the exact ash, sulphur, coke index, grindability and BTU content.

Contact Garland Coal Company today and find out how Garland's new custom Blending Plant can give you more efficiency from coal, thus saving you money.



Coal is a Better Buy Than Ever. Coal actually costs 1.2% less than it did in 1948 while the price of competitive fuels has risen substantially. Enormous reserves of coal in this country insure a constant supply of relatively low cost fuel. Coal is still your best buy.

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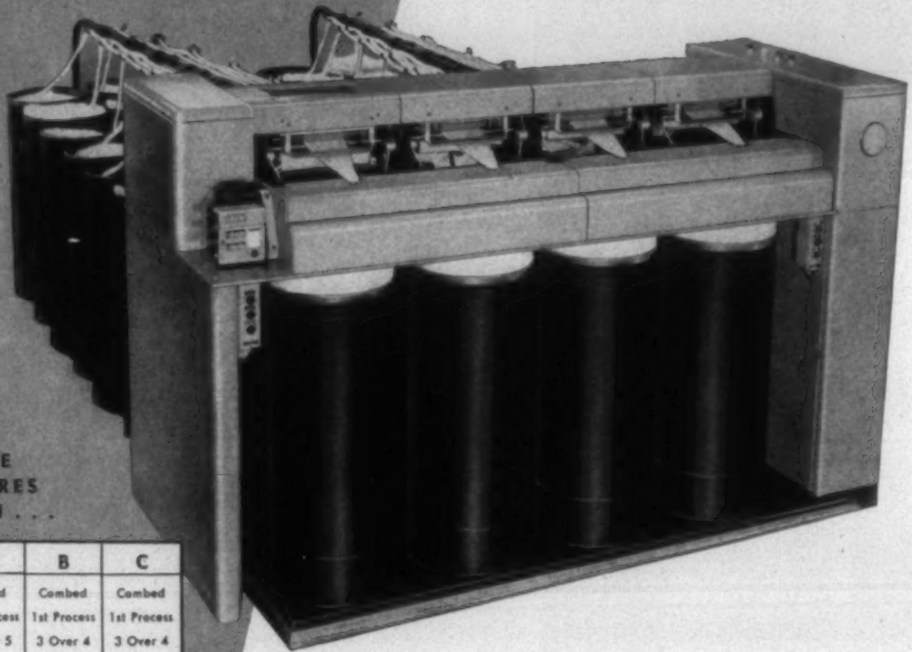
407

Production- KEY TO PROFITABLE OPERATION



COMPARE THESE PRODUCTION FIGURES WITH YOUR OWN . . .

Mill	A	A	B	C
Stock	Carded	Carded	Combed	Combed
Process	1st Process	2nd Process	1st Process	1st Process
Model Versamatic	4 Over 5	4 Over 5	3 Over 4	3 Over 4
Sliver Fed	52.5 gr.	54 gr.	55 gr.	120 gr.
Ends Up	8	8	8	4
Speed	264 ft./min.	264 ft./min.	260 ft./min.	216 ft./min.
Sliver Delivered	54 gr.	56 gr.	55 gr.	60 gr.
Tester	Saco-Lowell	Saco-Lowell	Saco-Lowell	Brush
Variation	18%—19%	18%—19%	10%—13%	14%—16%
Efficiency	92%—95%	92%—95%		
Deliveries	16	16	60	32
Deliveries/Operator	32	32	30	32
Can Size—Back	15" x 42"	15" x 42"	15" x 36"	
Can Size—Front	15" x 42"	15" x 42"	15" x 36"	14" x 36"
Yards/Can	3800 yds.	3875 yds.	3300 yds.	2850 yds.
Pounds/Can	29.3 lbs.	31.0 lbs.	25.9 lbs.	24.4 lbs.
Draft	7.77	7.71	8.03	8.03
Pounds/Man Hour	1250 lbs.	1270 lbs.	1105 lbs.	1070 lbs.

Versamatic
DRAWING FRAMES
by SACO-LOWELL

GIVE HIGHEST PRODUCTION OF QUALITY SLIVER BY EVERY STANDARD — PER DELIVERY — PER MAN HOUR — PER HORSEPOWER — PER SQUARE FOOT OF FLOOR SPACE.

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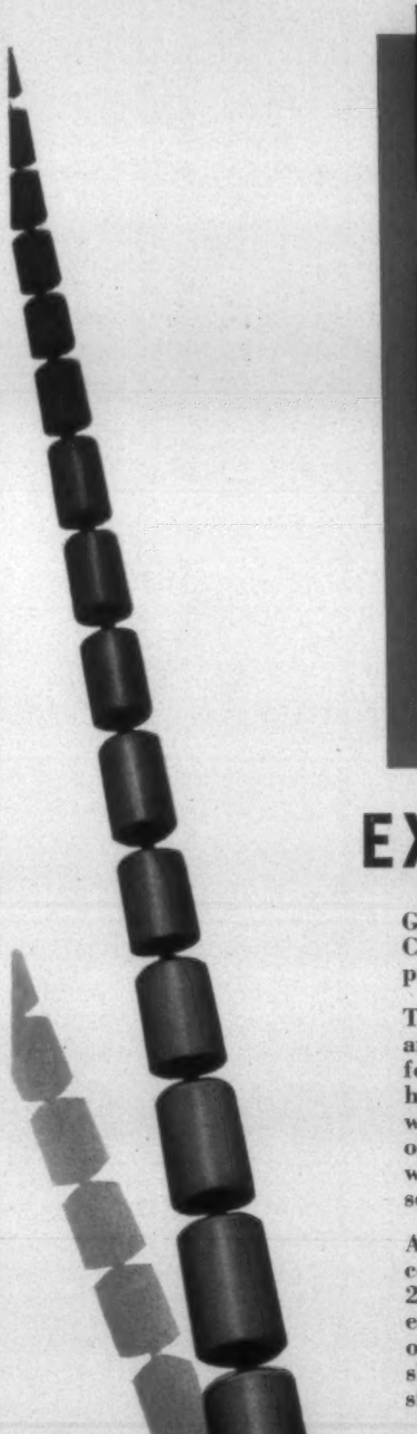


EXPERIENCE *is the Greatest Teacher*

Gaston County Dyeing Machine Company was founded in 1921 by R. F. Craig, well known textile executive and mill owner. Mr. Craig served as president of the company until his death in 1946.

The affairs of the company are now under the direction of the second and third generations of the Craig family. H. M. Craig, son of the founder, has been affiliated with the firm during its entire 36 year history. R. P. Craig, another son of the founder, has been connected with the firm for 15 years, and H. M. Craig, Jr., has completed 5 years of service. Important members of the executive staff are George Hacker with 20 years of service and his son, Gordon Hacker, with 10 years of service with the company.

A considerable number of production employees have been with the company since its beginning and many others have service records of 25 years and longer. Until the recent expansion program required the employment of additional skilled workers, the average service record of all employees was about 15 years. Most of the new employees are skilled men with previous experience in other plants doing work of a similar nature.

There is no Substitute for Experience

GASTON COUNTY
DYEING MACHINE CO.

STANLEY, NORTH CAROLINA + ESTABLISHED 1921

DESIGNERS AND BUILDERS OF DYEING, BLEACHING, EXTRACTING AND DRYING MACHINES

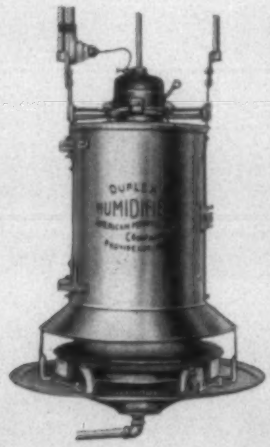
Stainless Steel Fabricators — Process Tanks and Pipe

30 YEARS with CHICOPEE

Widely known for its fine textile products . . . Chicopee Manufacturing Corporation appreciates that fine products require the best manufacturing equipment and air conditioning systems.

As Chicopee has grown, progressed and modernized, it has relied predominantly on Amco to satisfy each of its air conditioning needs with the system best suited for each particular process.

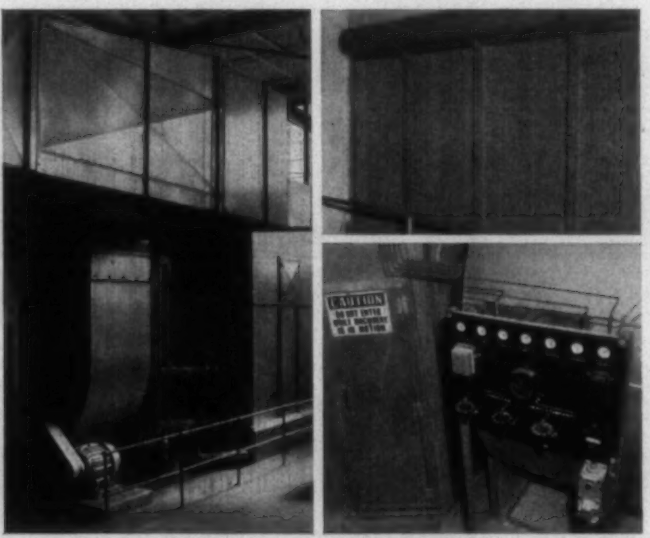
1927



In 1927, Chicopee humidified its Gainesville Cotton Mills with Amco Duplex Humidifiers — high-duty, spray type humidifier with motor-driven fans.

1957

In 1957, *30 years later*, an Amco Dry Duct system was installed in a weave room addition at Walhalla, S.C.



As recently as 1955, Chicopee installed Amco Central Station systems in its Bensenville, Illinois and Milltown, New Jersey plants, where the famous Masslinn Non-Woven Fabrics are produced.

Amco systems installed in Chicopee plants from 1927 to 1957

Chicopee Falls, Mass.

Bensenville, Ill.

Walhalla, S. C.

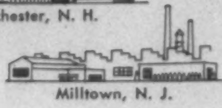
Manchester, N. H.

Straight Humidification
Bensenville, Ill.; Chicopee Falls, Mass.; Gainesville, Ga.; Manchester, N. H.; Milltown, N. J.

Evaporative Cooling
Chicopee Falls, Mass.; Manchester, N. H.; Walhalla, S. C.

Dry Duct
Walhalla, S. C.

Central Station with Air Washers
Bensenville, Ill.; Milltown, N. J.


Milltown, N. J.

Gainesville, Ga.

Whether your need is for one room or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification; humidification in combination with cooling, as in the ductless evaporative cooling system; unit dry-duct systems; central station systems, with or without refrigeration.

Amco engineers will be glad to advise you on any air conditioning problem — without obligation.

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WHERE *Flexibility* COUNTS . . .

FOSTER MODEL 102

Yes, you've got to give the palm to Foster 102 for its flexibility in performance and product. And here's why . . .

One-fibre specialization in the textile industry has gone the way of the one-horse shay. Monogamous mill marriages to cotton, wool or worsted have been broken up. Cotton mills are now running worsted or blended yarns, while woolen and worsted mills are producing blends of many different fibres, both natural and synthetic.

This trend to versatility and multiple operation extends to the choice of modern winding equipment. Only a winder that can meet TOMORROW'S requirements, as well as TODAY'S, for types and counts of staple yarns can keep you abreast of competition in the present dynamic market. In addition to its other qualifications, Foster Model 102 is the only winder of its type which has this proven flexibility.

FLEXIBILITY FEATURES OF THE FOSTER 102:

1. Winds any type or count of staple yarn. The same type of traverse mechanism which handles cotton yarn will handle worsted yarn without excessive wear. The change-over is quickly and easily made.
2. Produces any cone taper commonly used and any angle of wind from 9° to 18°.
3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. Winds cones on one side of machine and tubes on the other, if desired.
4. Winds dyed yarn even when damp; also conditioned yarn.
5. Can be built to wind up to 7" traverse.

Bulletin A-95-A
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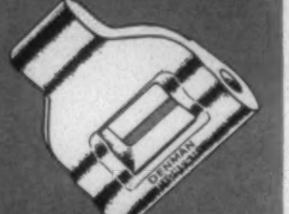
FOSTER MODEL 102 The Flexible Winder

FOR COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN NYLON OR RAYON YARNS



DENMAN
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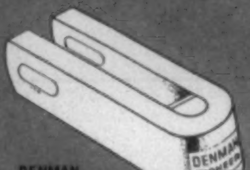
DROP BOX REVERSIBLE PICKER



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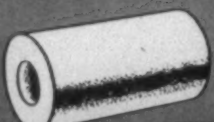

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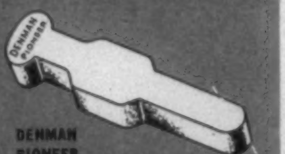

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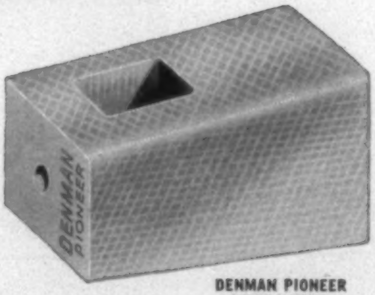
Compounded For Smooth, Dependable Performance . . .

Longer Life And Greater Resistance To Shock!



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For more than 20 years Original Denman Pioneer Loom Parts have set new standards for smooth, dependable performance. They are scientifically designed and moulded to absorb repeated loom shocks with little or no adjustment . . . need replacement only after longer-than-average service. To cut costs, step up production, specify Original Denman Pioneer Loom Parts . . . they are built for rugged use and a longer "prime of life"!

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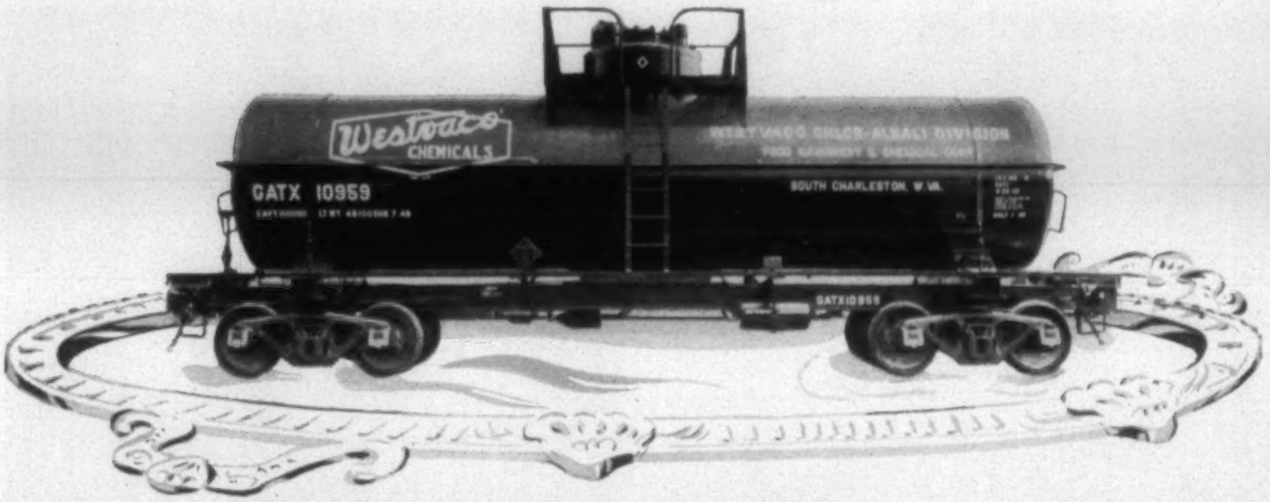
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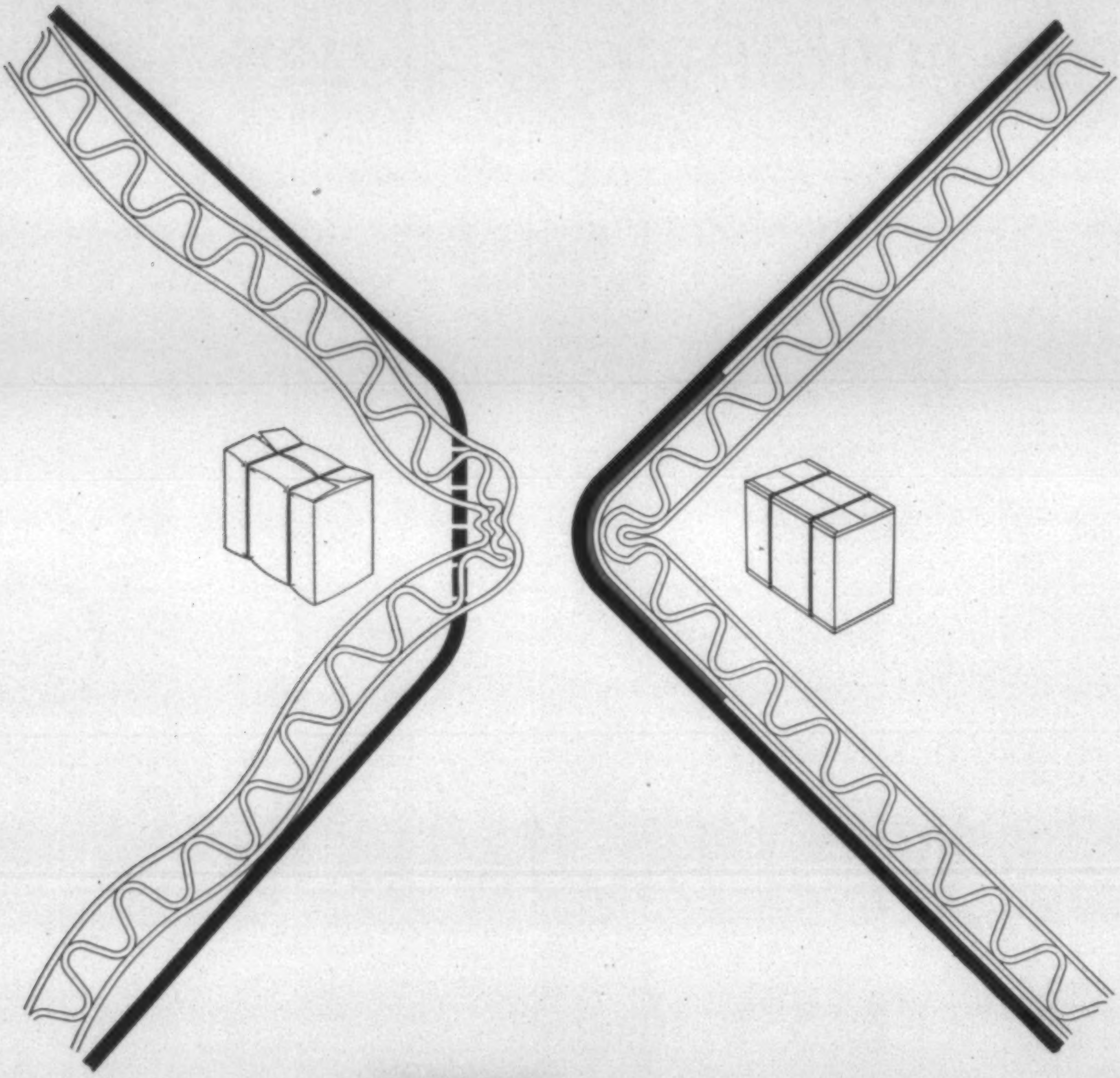
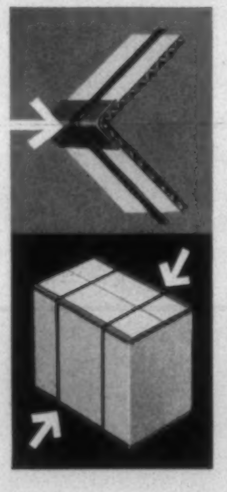


STRENGTH WHERE IT COUNTS IN CCA-TexTite SHIPPERS



Understanding the needs of an industry results in packaging that creatively contributes to that industry. The new CCA-TexTite yarn and bulk goods shipper demonstrates this principle superbly.

CCA engineers have taken strength from areas where it was not needed and put it where it is most needed. The result: a unique structural feature—built-in reinforcing strips which completely protect your commodity from metal strap cuts and buckling at the point of contact.

This extra protection permits a lighter, lower-priced package which is also reinforced at the top and bottom of the vertical score lines. Right now CCA-TexTite is being used successfully by some of the country's major mills.

For an analysis of your packaging procedure in relation to your production methods, call CCA today.

CCA

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Gossett's NEW BIG drawing coiler gives

TWICE the continuous running time ... HALF the creeling time!

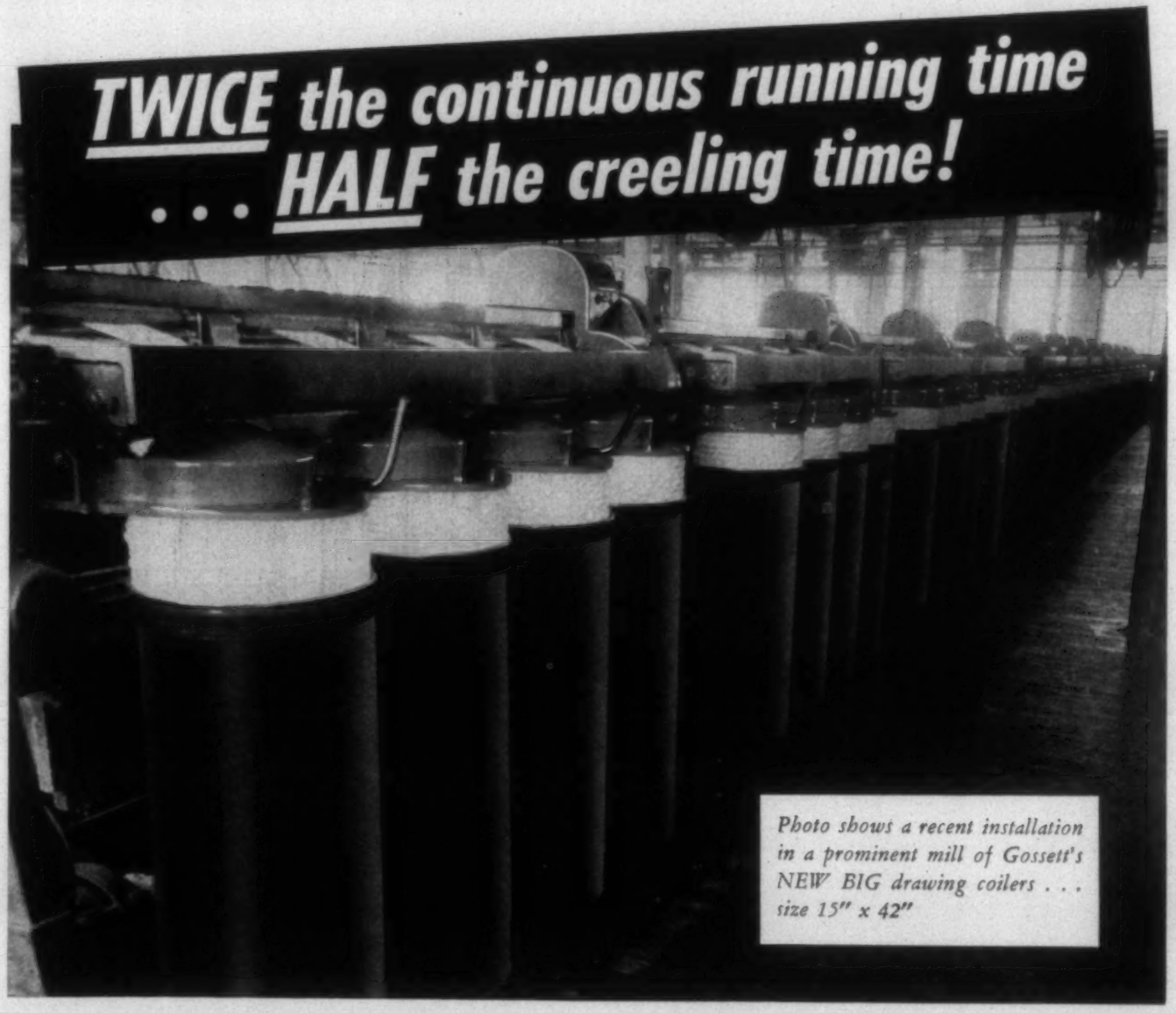

Photo shows a recent installation in a prominent mill of Gossett's NEW BIG drawing coilers . . . size 15" x 42"

From Gossett Machine Works, pioneers in the big coiler conversion technique, comes Gossett's NEW BIG Drawing Coiler!

Here's THE big coiler which is especially constructed for greater all-round efficiency at high speeds!

Smooth, low-noise operation and longer wear are features built-in by Gossett's master technicians.

Get twice the continuous running time . . . cut your creeling time in half . . . install Gossett's NEW BIG drawing coilers on your present drawing frames NOW!

We convert 10" and 12" drawing coilers to 14" through 15" in diameter and 36" to 42" in height.

For full information and prices, write

B. W. GOSSETT
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GOSSETT Machine Works, Inc.
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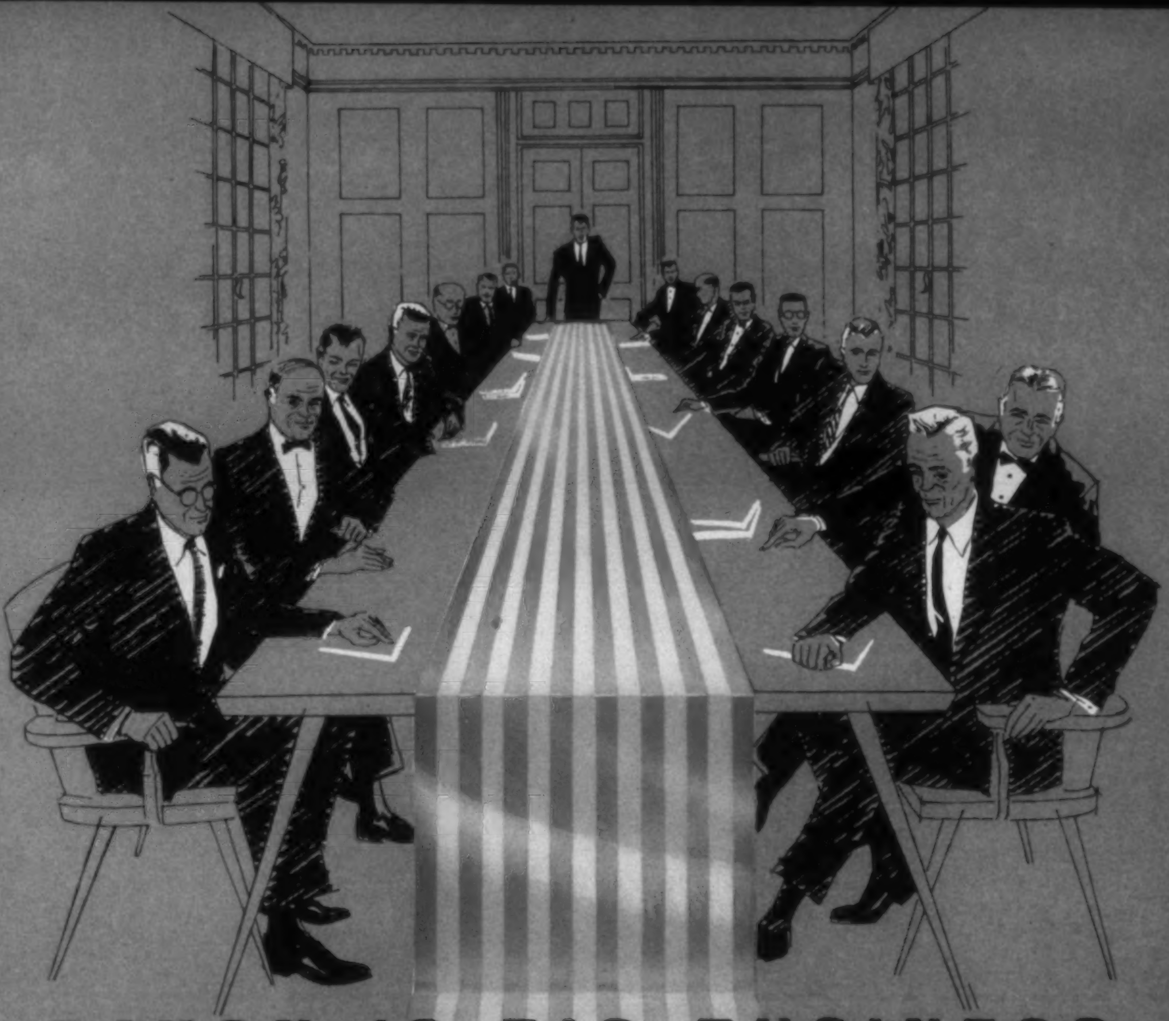


RAYON IS BIG BUSINESS

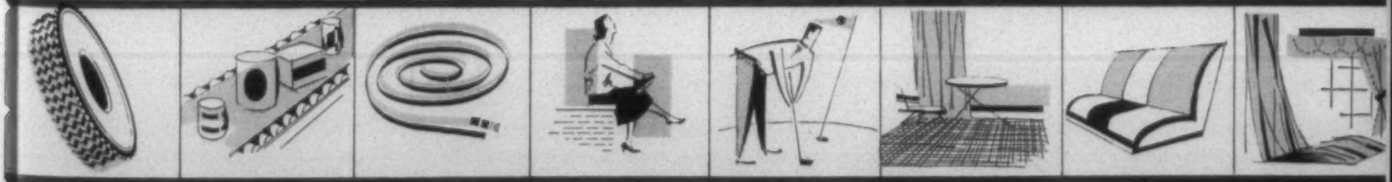
Rayon is big business today. Every hour of every day this country produces enough Rayon to encircle the world forty-five times—once every minute and fifteen seconds.

Rayon tire cord builds safety into today's high speed driving evidenced by the fact that every 1958 production automobile will ride on Rayon tubeless tires... in upholstery and automotive fabrics Rayon contributes to the strength, durability and appearance... carpeting for both home and office has longer life when Rayon is added... when added to men's and women's apparel fabrics, Rayon contributes to their eye-appeal and wearing qualities.

In countless fields of application, from heavy duty industrial textiles to shimmering fabrics in the smartest salons, the virtues of Rayon are recognized. In fact, Rayon production is as big as all other man-made fibers put together.

Antara Chemicals is proud of its part as a supplier to Rayon manufacturers of processing chemicals such as spin bath additives, clarifiers, sequestering agents, surfactants for finishes, softeners and lubricants, optical whitening agents, and fixing agents for dyes.

General Dyestuff Company, one of our country's oldest and most experienced suppliers of dyes and pigments, has a complete range of products for coloring Rayon in the mass, as well as Rayon piece goods and yarns.



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ANTARA gaf

gdc gaf

RIGHT... and proved right... for every frame and fiber... Armstrong Accotex Cots

A change in your spinning equipment, or a switch from natural to synthetic fibers or blends, usually calls for a corresponding adjustment in your roll coverings. But whatever the new setup is, there's an Accotex® Cot compounded and proved right for the job.

These cots are designed to combat such problems as eyebrowing, lap-ups, and yarn irregularities . . . and they'll help you spin stronger, more uniform yarn.

For example, if eyebrowing is a problem on your spinning and roving frames, a change to Accotex NC-762 will probably help to control it. This new roll cover has just the right surface friction to pack the waste well back under the clearers. And its anti-static properties help to reduce waste substantially. Like all other Accotex Cots, NC-762 will give you dependable performance, shift after shift.

In spinning on frames where metal-to-metal contacts have been eliminated, you may be plagued with lap-ups, caused by high static. In this case, one of the new Armstrong anti-static compounds is the remedy—an answer already discovered by hundreds of mills.

When you plan a change in fiber, or in equipment, it's a good idea to call in your Armstrong man early. His special training and practical experience can be of help in choosing the right roll cover for best yarn production in your mill. Armstrong Cork Company, Industrial Division, 6512 Davis Ave., Lancaster, Penna.

For more information about Accotex Roll Covers, and other Armstrong textile supplies, write for the booklet, "Armstrong Textile Supplies." Look to it for help in selection, installation, and maintenance of Armstrong spinning and weave room supplies.

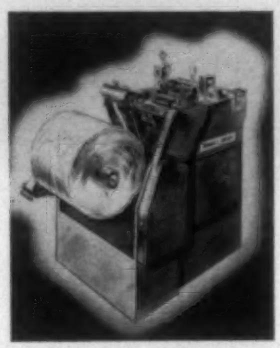
Armstrong ACCOTEX COTS

. . . used wherever performance counts

For the Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

Setover Pin Drafter

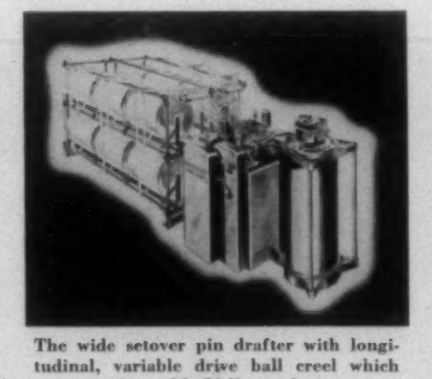


New wide setover pin drafter intersecting draw frame (The Warner & Swasey Co.)

A wide setover pin drafter intersecting draw frame, recently announced by The Warner & Swasey Co., claims wider pinning, close nip control on short staple and greater versatility as major operating advantages.

Providing 33% greater pinning area and input capacity than previous models, the new pin drafter is said to meet the operating requirements of every pin drafting need. It can be used for all precombing jobs, including backwashing and assembler operations. This, according to the company, opens up entirely new applications for high-speed pin controlled drawing, especially in cases where machine limitations formerly rendered high speed drawing methods impossible.

Requiring approximately the same floor area as other pin drafter equipment, the new machine can be equipped for either single or dual can or ball delivery. The new balling head unit consumes only ½ the space of older models, but delivers a ball up to 18" x 24" and 50 lbs. in weight. The longitudinal, variable drive ball creel will accommodate 12 of these 50-lb. packages or additional smaller ones. It is equipped with a new type stop motion mechanism for individual, positive end control.



The wide setover pin drafter with longitudinal, variable drive ball creel which accommodates 12 50-lb. packages.

The single delivery machine will accommodate a 15" x 36" can or a jumbo 20" x 42" can that has nearly double the capacity.

A new single lever clamp is employed. It provides close nip control and improved ease of operation. Increased evenness in stock delivery is assured through uniformly distributed pressure. One handle adjusts for all pressures. A pull of 35 lbs. on the handle exerts about 1,000 lbs. pressure on the nip roll. All clamp operating mechanisms are located beneath the machine, leaving the machine head virtually exposed.

A lap detector stop motion is also part of the clamp assembly. This stop motion halts the pin drafter before laps can build up on either the drafting or pressure rolls, preventing damage to equipment and uneven stock delivery.

The machine's 8" plastic-bonded faller bars function at a constant speed of 1,500 faller drops per minute. A 5 h.p. electric motor provides operating power, driving through a combination of gear, belt and chain drives to the pin drafter's various working mechanisms. Anti-friction bearings are standard throughout.

A reversing can turntable, powered by a separate 1/3 h.p. motor and control system, is optional.

The 20" can coiler, of pusher type design, features simplified construction using a turntable and sealed bearing lubrication. This greatly extends the unit's longevity, it is claimed.

According to Warner & Swasey, the new wide setover pin drafter's various delivery systems have been specifically designed to meet the growing desire for larger packages. The machine's flexibility, in fact, now makes it possible for each mill to produce the exact type of package needed to satisfy its own individual requirements.

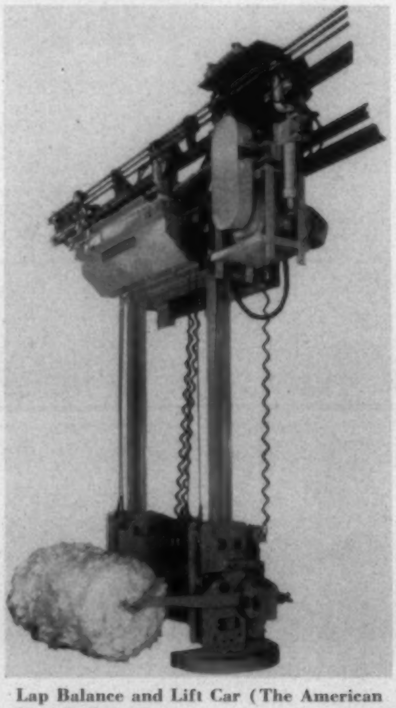
(Request Item No. L-1)

Continuous Dry Mill

A reciprocating continuous dry mill, recently developed by James Hunter Machine Co., is said to deliver finishers a double saving, both in initial cost and operating labor costs. When placed in line with a carbonizing range, the mill can be operated by the carbonizer crew. The cloth is introduced and removed from the machine by 2 sets of nip rolls, running at the same rate as carbonizer dryer. It is crushed between 2 sets of rolls which pass the cloth in alternating directions. Two scrays inside the machine hold the cloth while it is being reversed.

The need for timers and costly electric reversal controls is said to be eliminated by the use of a simple detecting device at the bottom of each scray. Activated by the amount of cloth left in the scray, this device opens 1 set of rolls and closes the other, thereby reversing the direction of the cloth without altering that of the rollers. The machine requires approximately the same space as that occupied by a batch dry crusher. Results are reported to be consistently superior to those attainable with a batch dry mill. (Request Item No. L-2)

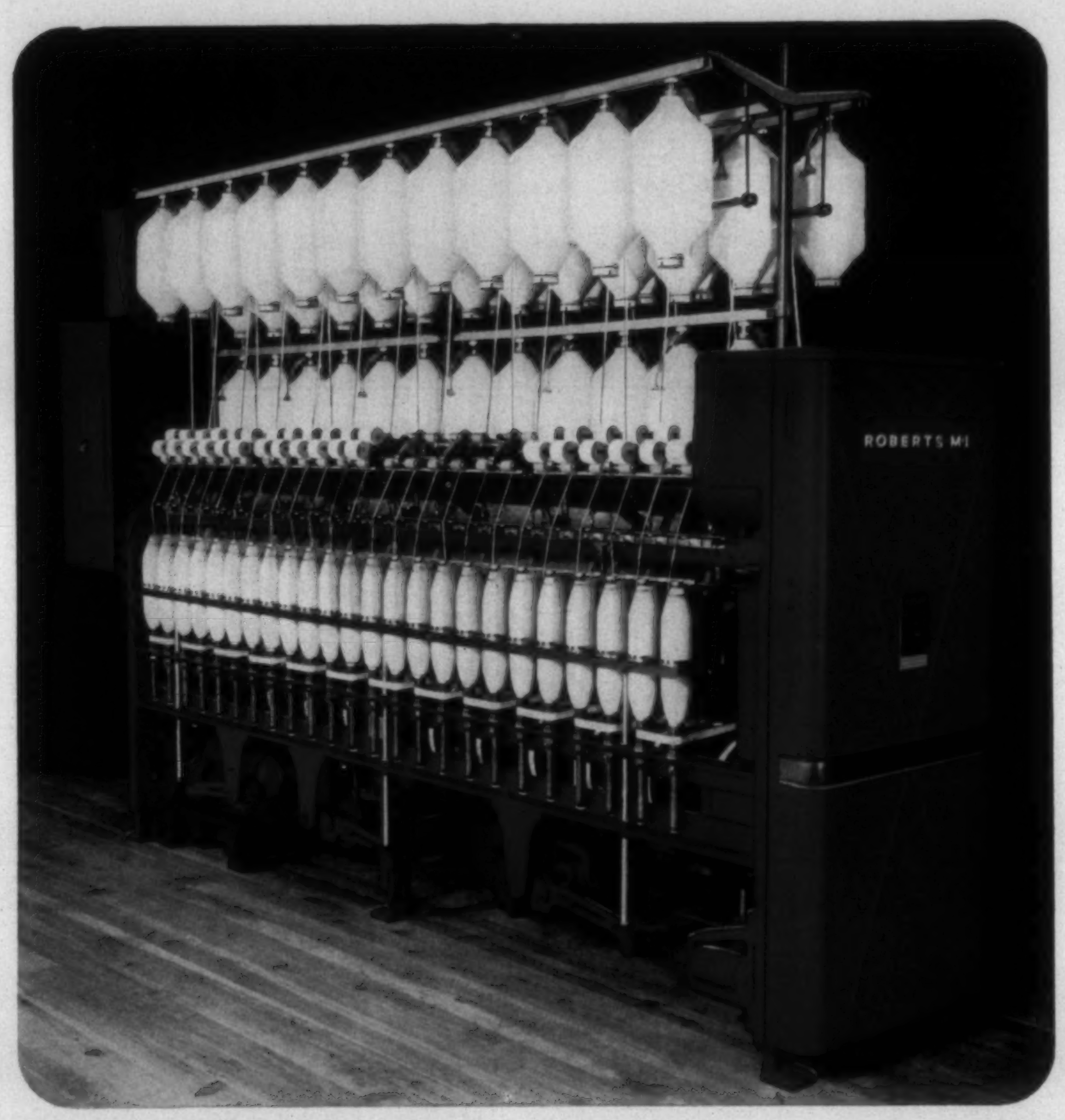
Lap Balance And Lift Car



Lap Balance and Lift Car (The American MonoRail Co.)

The American MonoRail Co. has introduced a new Lap Balance and Lift Car, a device for the maintenance of weight tolerance of the cotton picker. In the past, lap weight has been checked by weighing the entire mass of the picker lap which required delicate scales of one type or another. The new device checks only the variance from a given standard weight, indicating directly to the picker tender the amount over or under this standard. This standard weight is adjustable to accommodate varying moisture regain rates and this adjustment is set directly into the machine in per cent regain figures. The variance from standard weight is indicated on an illuminated dial which is mounted under a magnifying head, enabling the operator to see it easily from a great distance.

The machine not only checks lap weight but also handles the lap mechanically from the picker to an overload monorail lap handling system. The operator is never required to lift the lap, enabling the size of



ROBERTS SPINNING

ALL NEW—ALL BALL BEARING ROBERTS M-1 SPINNING FRAME

MODERN IN DESIGN

Into the rugged simplicity of the Roberts M-1 chassis has been built all the ball bearing features needed to provide the smooth operation and productivity for today's and tomorrow's production goals. Standard features include:

- FLEXIBILITY FOR COTTON AND SYNTHETICS
- BALL BEARING TOP ROLL SUSPENSION
- BALLOON CONTROL ARRANGEMENT
- BUILT-IN UnitVac SUCTION CLEANING
- EXTRA CAPACITY SPINDLES
- FULL BALL BEARING HEAD
- 45 DEGREE ROLL STANDS
- LATCH-TYPE BOBBIN HOLDER AEROCREEL
- STEEL BASE RAILS, ROLL BEAMS, RING RAILS
- ADJUSTABLE DRAFT CONSTANT, 500 to 3000
- TURNKEY ERECTION AND STARTUP

PROVEN IN PERFORMANCE

New Roberts Spinning has been running in the mill since February 1956 and has proven itself not only most economical in initial cost but low in maintenance. One large user with more than 200 frames in continuous production reports that the new Roberts Spinning runs with higher front roll speeds, better yarn quality and substantially lower ends down than the several thousand frames of other makes in operation in their mills.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

Service Plus

F. Worth Beaver
Jacobs Service Engineer in Central North Carolina and North Central South Carolina

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Quality

Jacobs Hairy Leather Check Straps
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— boosts production and cuts operating costs.

Jacobs high quality plus personal loom engineering service is the combination that does it.

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Danielson, Conn.

the lap to be increased as desired. The operator simply tears the lap from the picker and rolls it a few inches out from under the hold-down journals and into the waiting arms of the lap balance car, which has automatically been positioned correctly to receive the lap.

The operator then touches the start button, which energizes the machine and starts the automatic cycle. The lap balance and lift car raises the lap and checks tolerance immediately so that any required adjustment of the picker can be made as quickly as possible. After checking the weight tolerance, it places the lap automatically into the overhead carrier, where it is easily latched into the carrier. The car then locates automatically in front of the next picker to begin the cycle over again.

Indication of weight tolerance is also shown on a remote indicating head which can be placed at any desired position. This enables supervision to keep a constant check on lap weight without being in front of the picker. (Request Item No. L-3)

Nitrogen Derivatives

Eleven new product additions to the line of fatty nitrogen derivatives produced by the chemical division of General Mills have been announced. The new products are available in commercial quantities. They include 7 primary fatty amines (trademarked Alamines), 3 fatty quaternary ammonium chlorides (Aliquats) and a trimethylene diamine (Diam). Fatty nitrogen compounds have unique cationic surface-active properties and lend themselves to many industrial applications. They are outstanding chemical intermediates and are used extensively in the textile industry. The primary amines are available in technical and distilled grades. They include lauryl, palmityl, cottonseed and soya fatty amines. The fatty trimethyl ammonium chlorides are derived from high purity lauryl, palmityl and coco primary amines, while the new Diam has a coco fatty amine base. (Request Item No. L-4)

Static Eliminators

Simco Co. has announced 2 new types of static eliminating equipment, specifically designed for cleaning dust and dirt from surfaces to which it is attracted and held electrostatically. In the new static bars, provision is made for simultaneously blowing off the dirt and neutralizing the static charges on both the dirt and the part being cleaned. This simultaneous action is much more effective than other cleaning methods such as brushing or wiping, according to the company, since not only is the dust completely removed, but the electrostatic forces tending to re-attract it to the part are eliminated.

One of the new static bars, the air-type shockless bar, incorporates an air tube with holes opposite each point and can be made in any length to fit the application. The other, called the Neutrostat Air Gun, is a hand-held compressed air gun with a static eliminator built into the nozzle. A small power pack, operated from a.c. service, will energize a number of the static bars or air guns. (Request Item No. L-5)

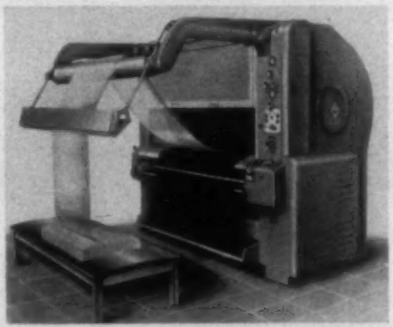
Low Cost Counter

Model SD-1 electronic counter (Post Electronics)

Post Electronics has announced development of a low cost counter (SD-1) which boosts both life and the speed range of electro-mechanical registers such as pick counters. Said to increase life of electro-mechanical registers by as much as 15 times, the SD-1 records in counts of 10, may be equipped with a visual totalizer, if desired, and can be placed several hundred feet from switch contacts.

(Request Item No. L-6)

Wool Finishing Machinery



Finish decating machine (Kettling & Braun)

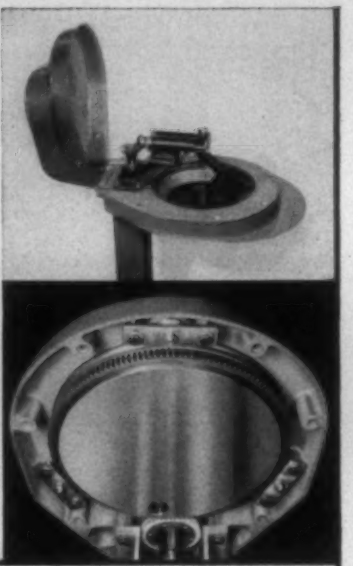
Wool finishing machinery manufactured by Kettling & Braun in West Germany is again being offered to woolen mills in this country through Ernest L. Frankl Associates, exclusive U. S. agents. The firm's machines were brought into this country in great quantities prior to World War II. The original plants were located in Eastern Germany, but since 1950 entirely new manufacturing facilities have been established in Western Germany. All the technical personnel of the original firm were able to escape to the Western Zone, forming the nucleus of the group at the new Kettling & Braun plant.

The company reports that since 1950 it has developed a greatly improved line of machinery, applying the latest technological advances and requirements of automatic

NO OTHER COILER HAS THESE ADVANCED DESIGN FEATURES:

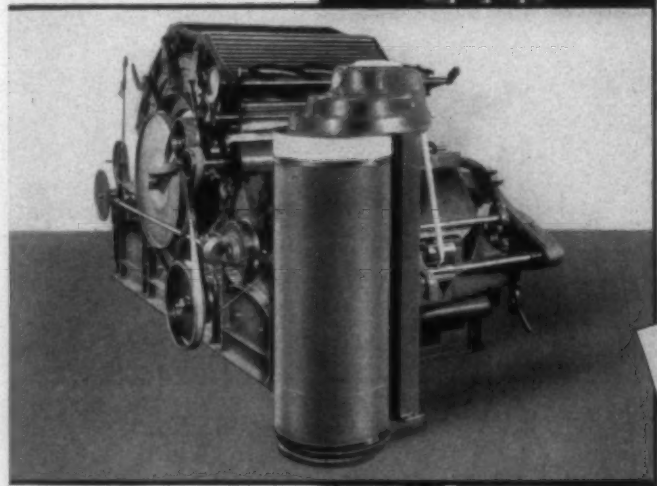
1.

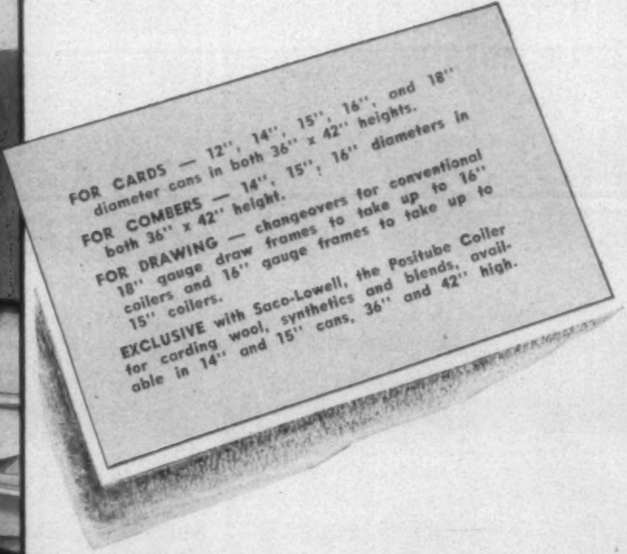
New Coiler Head—*Needs no external lubrication,* thus eliminating yarn soilage. Calender Rolls are mounted in anti-friction bearings. The Coiler Tube Gear, driven by a nylon pinion, is supported by 3 roller assemblies mounted in anti-friction bearings. Tube gear therefore runs dry, never needs lubrication.



Only

SACO-LOWELL has "*BIG*" COILERS for Carding, Combing and Drawing





FOR CARDS — 12'', 14'', 15'', 16'', and 18'' diameter cans in both 36'' x 42'' heights.

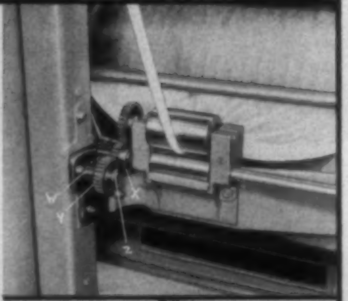
FOR COMBERS — 14'', 15'', 16'' diameters in both 36'' x 42'' height.

FOR DRAWING — changeovers for conventional 18'' gauge draw frames to take up to 16'' coilers and 16'' gauge frames to take up to 15'' coilers.

EXCLUSIVE with Saco-Lowell, the Positube Coiler for carding wool, synthetics and blends, available in 14'' and 15'' cans, 36'' and 42'' high.

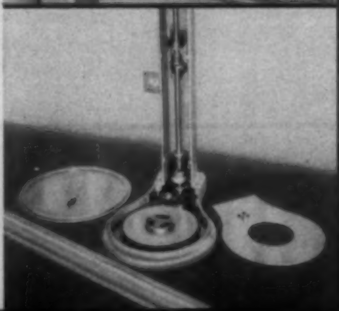
2.

Coiler Drive, with anti-friction bearings throughout, located close to the card calender rolls. Rigidly mounted spur gears, Y, carried in an adjustable bracket on the coiler post, mesh with the bottom calender roll gear X on the card. The drive enters the coiler trunk through cannon shaft Z, carried in adjustable bearing bracket W.



3.

Coiler Base—New type turntable unit makes doffing of large, heavy cans much easier. A raised ring on the turntable engages the inside of the bottom can rim, an improvement over the old method of fitting can inside flange.



REMEMBER — SACO LOWELL "BIG" COILERS

- Reduce labor costs as much as 30%*
- Reduce "piecing up" at drawing up to 50%*
- Reduce re-workable sliver waste over 50%*

*Based on actual mill tests.

SACO-LOWELL SHOPS

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. *Sales Offices:* CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA

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Spinning and Twisting

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Bearings for all makes and models

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operation to wool finishing equipment. Among others the company manufactures 24-roll nappers, wet decating machines, automatic finish decating machines, automatic high lustre full decating machines, wet and dry brushing machines, cylinder presses, suction humidifiers, cloth shearing machines, full-width carpet shearing machines, multi-layer tenter frames and carbonizing machines.

Initially, particular emphasis will be placed on the automatic full decating machines which are said to produce a first-class finish in automatic operation with a production of better than 3,000 yards per 8-hour shift. Experienced technical personnel will be available to advise U. S. mills on wool finishing problems.

(Request Item No. L-7)

Tenter Housing

A tenter housing embodying new design and construction features has been developed by James Hunter Machine Co. Called the James Hunter Jet Stream tenter housing, it is said to provide a maximum evaporative capacity, using either steam or a gas-fired heat source. Heavy duty fans are mounted overhead with heaters and screens in a penthouse. Plenum chambers located above and below the tenter frame carefully split the air. Nozzles are placed to provide maximum heated air velocity, and still permit return air to travel at a low rate of speed. These new refinements, the company says, permit an even application of heat to be maintained across the width of the fabric. Migration of resins and dyestuffs is eliminated, and excessive drying at cloth edges is avoided. (Request Item No. L-8)

All-Synthetic Belting

Texalon, a new stretch-free, all-synthetic belting for mechanical power transmission, has been announced by J. E. Rhoads & Sons. The belting is a woven nylon textile with a core of extruded nylon. The flat nylon ribbons making up the core have been oriented, a process which locks the molecules in position and makes the belt almost 100% free of permanent stretch while retaining its elasticity, according to company reports.

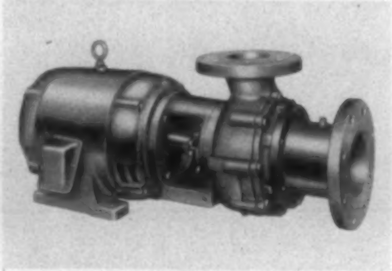
It can be made endless in a matter of minutes in the customer's plant, or can be purchased made to specifications. Non-fraying edges permit easy cutting to any width. Ease of cementing allows use of short ends. No tension adjustments are required.

Light weight and flexibility permit Texalon's use on small pulleys with high belt speeds and high pulley ratios. Elasticity and good grip, it is said, allow the belting to work easily on both short center and fixed center drives. In addition to mechanical power transmission, Texalon applications include carrier tapes and conveyor belts.

Physical properties and characteristics of the product depend on the thickness of the belt. In its thinnest form it consists of a double ply of nylon textile. In 5 other types, the number and thickness of the plies of plastic ribbon sandwiched between the two outer plies of textile determine the strength of the belt.

(Request Item No. L-9)

General Purpose Pumps



Type B.C. general purpose pump (Aurora Pump Division, The New York Air Brake Co.)

End suction type B.C. general purpose pumps in close-coupled horizontal flange-mounted vertical and pedestal-mounted horizontal units are now offered by Aurora Pump Division of The New York Air Brake Co. The sizes range from 1/4 h.p. to 40 h.p. at 3,500 r.p.m. and 1/4 h.p. to 20 h.p. at 1,750 r.p.m. The pumps possess low N.P.S.H. characteristics to meet critical suction conditions. They may be readily changed from packing to seals by means of interchangeable inserts: mechanical seal, packing, water-cooled stuffing box with mechanical seal and water-cooled packing box. Shaft sleeves are of bronze, case wearing rings of nickel-iron. Wide gasket seals prevent leakage between casing and mating parts. The pumps have steep sloping characteristics with constantly rising head to shut-off and low impeller velocities for smooth, quiet operation. Where necessary to reduce axial thrust, bearing load is kept to a minimum by means of balancing rings. Additional information can be obtained by writing for an 8-page descriptive bulletin (No. 119-C) offered by the company.

(Request Item No. L-10)

Ultraviolet Screener

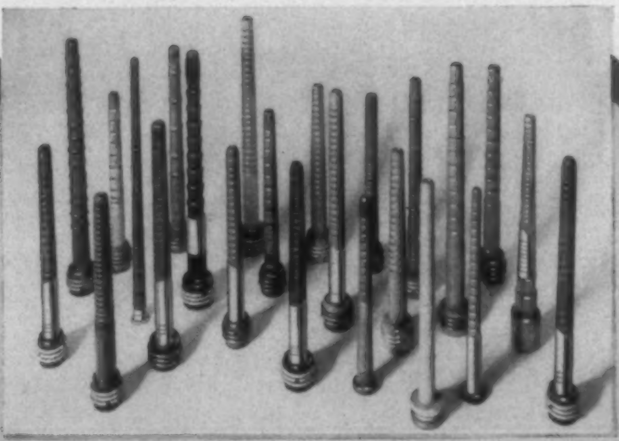
A new chemical suggested as an ultraviolet screener for textile finishes has been developed by Air Reduction Chemical Co. It is called Methyl hydroxy butanone and is a derivative of methyl butynol. The chemical is now available in development quantities. Samples are available on request.

(Request Item No. L-11)

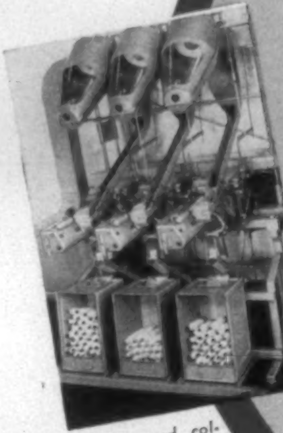
Textile Print Thickener

A new textile print thickener, announced by Morningstar, Nichol Inc., is a cold-water-soluble product that is reported to produce high color yield and to be readily removable from fabric without enzyme treatment. The new product, Solvitose C5, is a cold-water-soluble starch ether, producing smooth, free-flowing solutions.

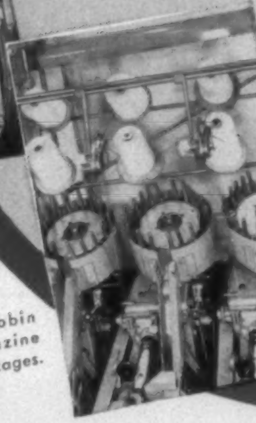
The cold water solubility of the agent is said to do away completely with cooking kettles and save the time of cooking and cooling period required for starch and



A few of the many types and sizes of filling bobbins that can be profitably run on the Fill-Master Winder.

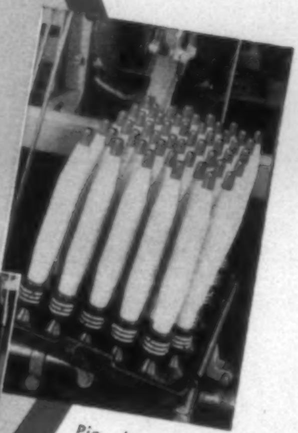


Exhaust hoods and collectors for mills having dust and fly in winding area.



Multi-cell empty bobbin magazine for magazine creeling or single packages.

Packing device for orderly, clean storage of filled bobbins.



Pin boarding arrangement for synthetic yarns.

Only the Whitin-Schweiter FILL-MASTER* Filling Winder Gives you such Complete FLEXIBILITY and ADAPTABILITY

Flexible . . . . for fully automatic winding of cotton, wool, worsted, synthetics and blends.

Adaptable . . . to a broader range of mill requirements than any other winder thru its complete line of optional accessories (see illustrations)

These are only two of many outstanding advantages, including:

- Machine speeds up to 10,000 R. P. M.
- Speed of individual spindles adjustable
- Bobbins up to 10⅛"
- Tail-less bobbins
- Variable layer locking traverse prevents sloughing
- Maintains uniform winding diameters, resulting in more yardage per bobbin

*Trade Mark

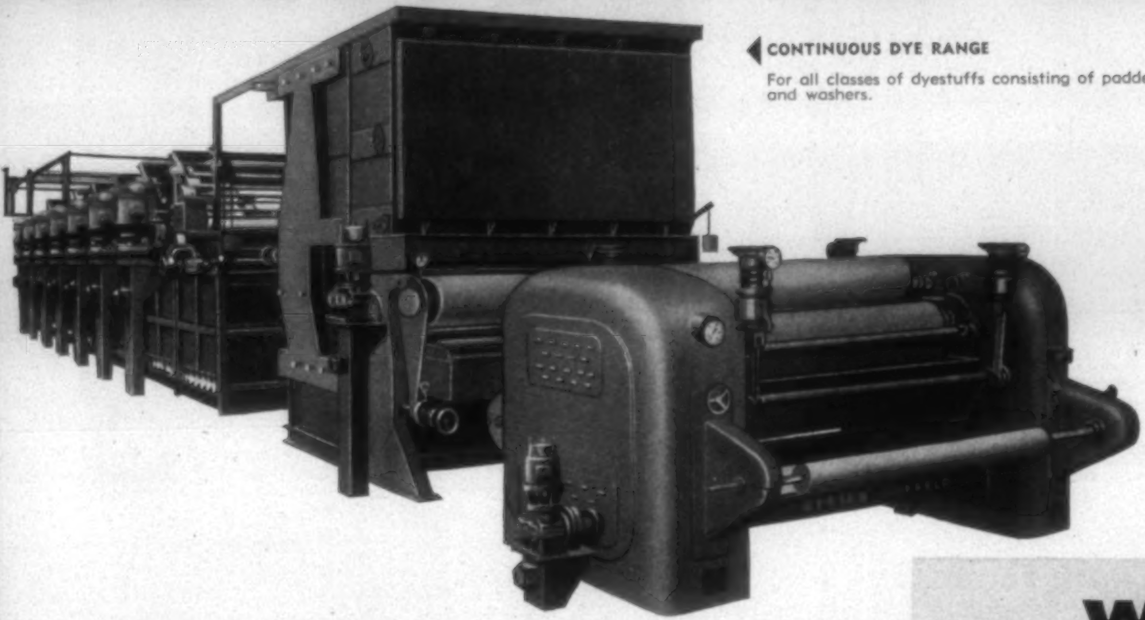
Whitin-Schweiter Fill-Master* Winder with Bobbin Loader

Whitin MACHINE WORKS
WHITINSVILLE, MASS.

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Manufactured by **WHITIN** *for sale in U. S. A. and Canada*
and by **SCHWEITER, LTD., Horgen (Zurich, Switzerland)** *for sale in other countries*

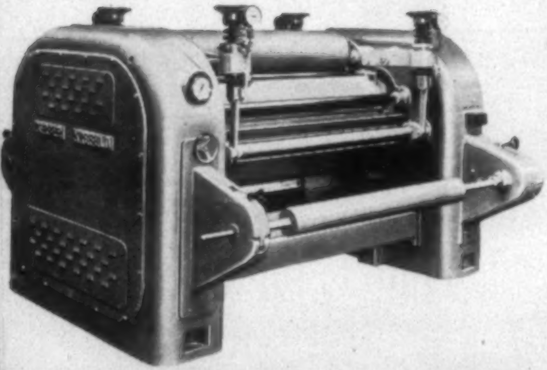
REINER NOW OFFERS...



CONTINUOUS DYE RANGE

For all classes of dyestuffs consisting of padder, hotflue, steamer and washers.

WET....

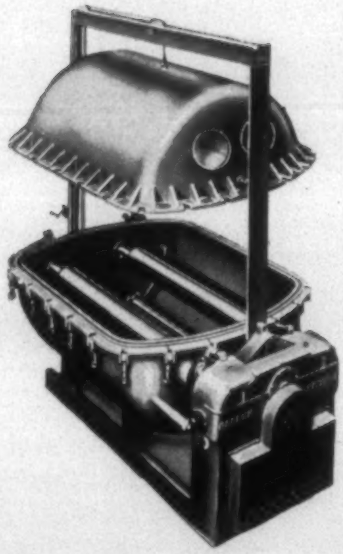


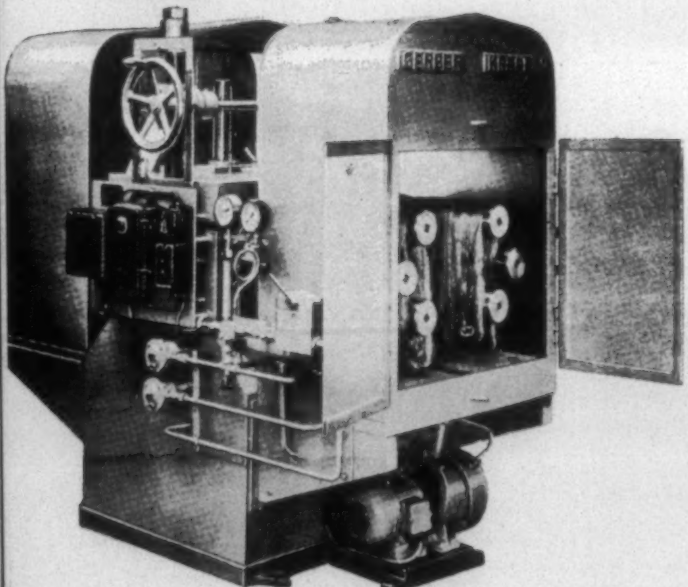
4-ROLL DYEING AND PADDING MACHINE

With various types of vats and squeeze rolls; and for either mechanical or pneumatic pressure. (Also 2 and 3 Roll Padders).

AUTOCLAVE JIG

For scouring and dyeing; incorporates all advantages of high temperature processes.





SKEIN STRETCHING AND LUSTREING MACHINES

Available with either 4 or 8 pairs of rollers— for skeins of silk or cotton. Steam or electrically heated cylinders (affecting inner and outer layers of skein).

The same high
standards of machine
performance and workmanship are guaranteed
whenever we act as
agents for other concerns.

PARE PARTS ARE AVAILABLE FOR ALL OUR
EQUIPMENT AT ALL TIMES.

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S....COMPLETE GERBER LIN

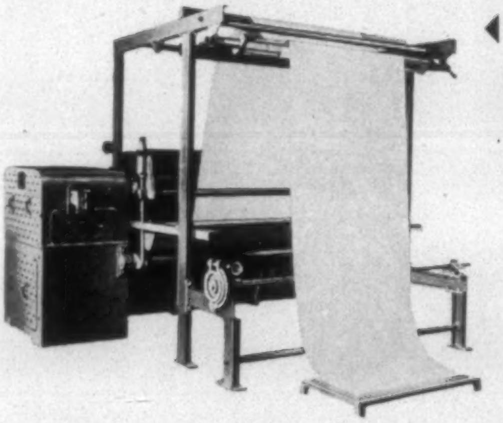
Reiner takes pride in announcing that it has added to the "Reiner Line" of textile machines the world-famous GERBER Mercerizing, Bleaching, Dyeing and Finishing Machines.

This means that from one dependable source—**Robert Reiner, Inc.,**—equipment for WARP KNITTING — WARP PREPARATION — FULL FASHIONED KNITTING — EMBROIDERY — WET PROCESSING & FINISHING is readily available.

The Gerber Line of Wet Processing Machines Include:

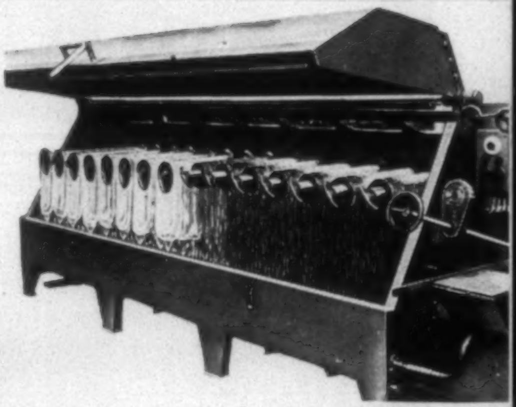
- **Dye Jigs**—fully automatic—with differential or patented electrical-hydraulic drives.
- **Bleaching & Boiling Jig** — with patented roller position device.
- **Autoclave Jig**—for pressure dyeing.
- **Universal Jig**—for boiling, bleaching and dyeing.
- **Padders**—2, 3 and 4 roll for range or independent operation.
- **Padder-Jigs**—for continuous dyeing.
- **Continuous Open Width Dyeing, Bleaching, Boil-Off, Washing, and Mercerizing Machines and Ranges.**
- **Skein (Hank) Yarn Dyeing Machine**—with rotating hanks.
- **Injection Dyeing Machine**—for skeins and cakes of yarn.
- **Dyeing Apparatus**—packing-in and stacking-up systems.
- **Skein Shaking-Out — Skein Polishing — Stretching & Lustreing Machines.**
- **Many variations and combinations of the above equipment available for special needs —also laboratory dyeing equipment.**

...PROCESSING.......MACHINES



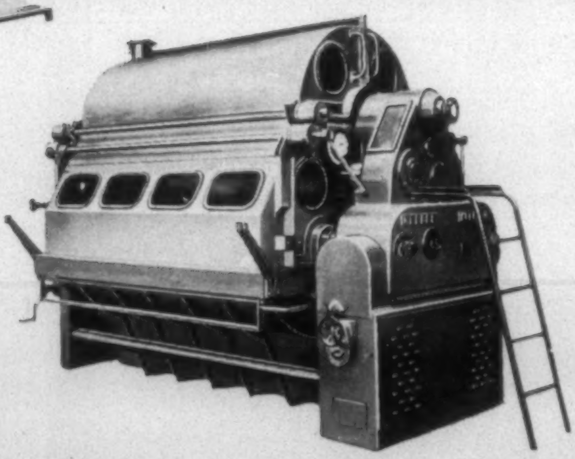
PADDER-JIG

The best continuous machine for small batches. Fully automatic (fabric runs tensionless and at constant speed)—combines padding and developing operations.



INJECTION DYEING MACHINE

For all types of natural and sy thetic yarns—in skeins or cakes.



UNIVERSAL JIG

Fully automatic for dyeing, boiling and bleaching. Made of stainless and acid-resisting steels; accommodates rolls up to 40" in diameter.

WRITE FOR COMPLETE DETAILS:

ROBERT REINER, INCORPORATED

telephone: UNion 7-0502 - *from New York City call:* LOngacre 4-6882
Only 10 minutes from Times Square by direct bus.

WEEHAWKEN, NEW JERSEY

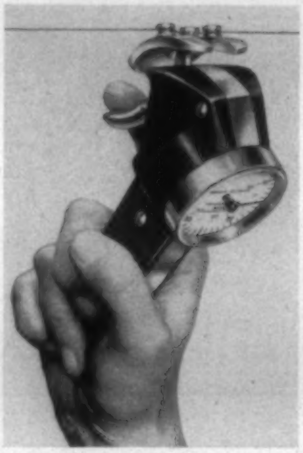
AN HONORED NAME IN TEXTILE MACHINERY since 1903 starch-gum mixtures. With simple agitation, a 50-gal. batch can be prepared in 40 to 60 minutes, according to the company. It is readily removed in the normal washing operation, and does not affect subsequent finishing operations.

Solvitose C5 can be used for both machine and screen printing with Vats, Indigosols and Rapidogens. It is not suitable for dyestuffs requiring chromium or aluminum salts for fixation. Good mark, sharp outline and clear blotches are reportedly produced. Its color yield, the company reports, compares favorably with mixtures of starch-British gum, or starch-tragacanth.

It is sold in dry granular form, and at 10 to 12% it gives sufficiency for the average print color. Neither sequestering agents nor other chemical additives are needed to improve the flow or other working conditions. (Request Item No. L-12)

Tension Meter

Tensitron Inc. reports that its new Saxl tension meter features low deflection and negligible contraction of the yarn, plus the additional feature of quick, automatic trigger action to the measurement of tension during yarn processing. Due to the negligible yarn contraction, Tensitron points out, it is possible, now, to make measurements of yarn tension and rubber strands, for instance, in narrow fabric looms where it was impossible with the type of tension meter that required wiggling-in.



The Saxl tension meter (Tensitron Inc.)

A new type of aluminum body supports solidly the trigger mechanism and the precision movement. The black, plastic sides, custom molded to fit the central housing, reduce the weight and increase the shock resistance of the instrument. They are said to add sure gripping even under conditions of high humidity.

In operating the tension meter, the trigger is cocked like a gun. This opens the 3-roller mechanism for yarn insertion. The yarn is placed on the 2 outer rollers which are recessed into the plate so the yarn cannot get caught in back of the pulleys. Upon release of the trigger, the yarn slips automatically into the wheel grooves. The center roller deflects against the restraint of a calibrated spring of special construction. This motion is mechanically amplified over a gage movement. The tension of the material shows on a dial directly facing the observer.

The distance which the center roller is lifted is a small fraction of an inch. This practically eliminates yarn contraction between the rollers, even if the free distance in which the tension meter can be inserted is limited. This inserting mechanism also eliminates the multiple wiggling-in needed for certain types of tension meters. A transparent flywheel, mounted on the pivot, steadies the readings, thus giving smooth averaging of all practical conditions encountered. (Request Item No. L-13)

Controlled Volume Pumps

Milton Roy Co. is introducing a new model to its miniPump line of controlled volume pumps for flow rates to 7,880 milliliters per hour and pressures to 1,000 lbs. p.s.i. Ruggedly constructed with motor drive action on the plunger for suction as well as discharge strokes, the pump is said to have a repetitive accuracy of plus or minus 1% of full capacity. Available with column valve-type liquid ends constructed of plastic, Milroy stainless steel or Hastelloy C, the pumps are reportedly ideal for accurately metering minute quantities of costly or corrosive fluids.

Driven by 1/3 h.p., single-phase, 60-cycle,

NON-FLUID OIL
TRADE MARK REGISTERED

BETTER SPINNING PROTECTION

Rotted roll covers and stained yarns result from the use of ordinary oils—cheap to buy but expensive to use.

You can avoid these costly evils by doing what most other mills do: use NON-FLUID OIL, which *stays in* roll necks of spinning frames—lubricating dependably—and does not creep out. Further, by outlasting ordinary oils three to five times—in spinning as in other mill operations—NON-FLUID OIL saves on oil and application cost.

That is why seven out of ten leading mills use leak-proof, creep-proof NON-FLUID OIL. That percentage means that NON-FLUID OIL is approved by more textile men—in more mills—than any other lubricants. It will pay you to write for instructive booklet T-13 and a free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT COMPANY
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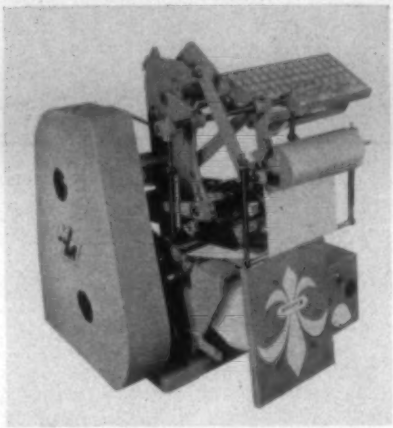
1896 61 YEARS OF LUBRICATION SERVICE TO INDUSTRY 1957

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

115-volt electric motors, they may have single or duplex liquid ends. Maximum capacities per liquid end are 300, 490, 760, 985, 1190, 1970, 3030 and 3940 milliliters per hour. Their capacities are manually adjustable from 0 to 100% when the pump is idle. (Request Item No. L-14)

Markem Leaf Printer



Model 45G leaf printer (Markem Machine Co.)

A new Markem machine designed to do a variety of leaf embossing jobs has been developed by Markem Machine Co. Called the Model 45G, the machine uses heated printing elements and leaf to imprint tradename and product information on boxes and bags. It is especially suitable for making light imprints on a dark background, or for materials which cannot be clearly marked with other marking compounds.

A full range of colored leaf is available from Markem. Color changes can be made rapidly and multiple color prints made in one operation are possible with the 45G. Maximum imprint area is 5⅞" wide by 2$\frac{1}{16}$" high.

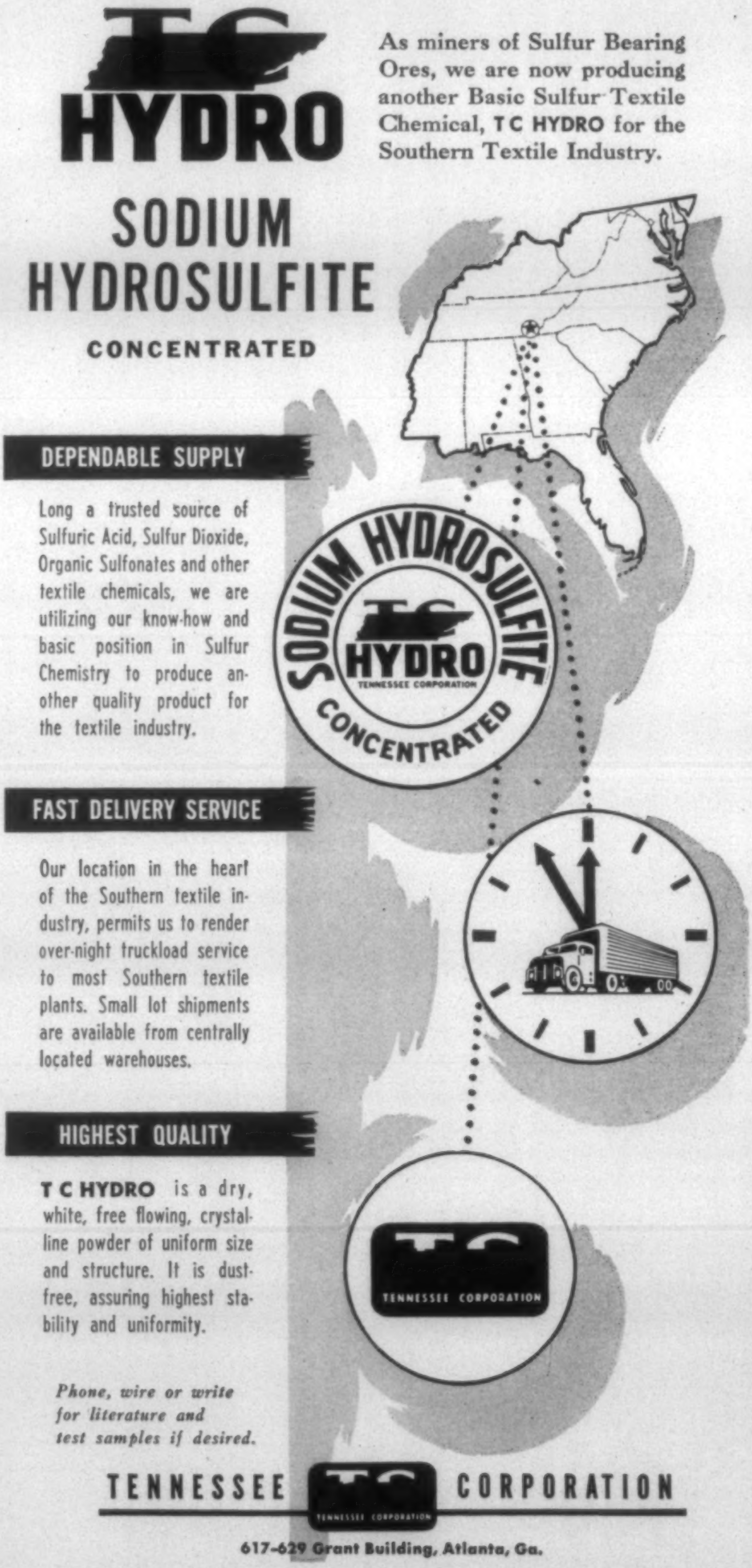
A thermostatically operated pre-heater keeps the type warm for ready use. All characters in the type bars can be changed quickly. The standard Markem inking mechanism is also available for the 45G to permit the use of regular Markem paste and liquid marking compounds whenever these are preferred.

The new unit can be used for any application where high quality marking, fast hand-fed production, quick change type features and versatility are required.

(Request Item No. L-15)

Motor Controller

The Gerald K. Heller Co. has introduced a new electronic motor controller designed to operate a ¾ h.p. shunt wound motor on 220-230 volts 50-60 cycles single phase with motor speed up to 2,400 r.p.m., having full torque from 300 to 2,400 r.p.m. The controller, identified as the Heller C60, embodies acceleration control, reverse, coarse and fine speed adjustment. It is mounted in a steel cabinet 14" wide by 16" high by 6" deep. The control station components are mounted in a steel box 2" x 2" x 9" which is connected to the controller with a special



TC HYDRO

SODIUM HYDROSULFITE

CONCENTRATED

As miners of Sulfur Bearing Ores, we are now producing another Basic Sulfur Textile Chemical, **T C HYDRO** for the Southern Textile Industry.

DEPENDABLE SUPPLY

Long a trusted source of Sulfuric Acid, Sulfur Dioxide, Organic Sulfonates and other textile chemicals, we are utilizing our know-how and basic position in Sulfur Chemistry to produce another quality product for the textile industry.

FAST DELIVERY SERVICE

Our location in the heart of the Southern textile industry, permits us to render over-night truckload service to most Southern textile plants. Small lot shipments are available from centrally located warehouses.

HIGHEST QUALITY

T C HYDRO is a dry, white, free flowing, crystalline powder of uniform size and structure. It is dust-free, assuring highest stability and uniformity.

Phone, wire or write for literature and test samples if desired.

TENNESSEE CORPORATION

617-629 Grant Building, Atlanta, Ga.

10-conductor vinyl-jacketed cable 10′ long. A 7′ 4-conductor vinyl-jacketed cable is furnished with the motor. The customer must supply a fused power switch. The controller is hot when the outside switch is on. The motor can be started, stopped, reversed and the speed changed completely from the small control station. Longer motor and control cables can be supplied on order.

(Request Item No. L-16)

Colloidal Lubricant

A colloidal lubricant which is said to adhere uniformly and continuously to smooth glassy surfaces, to increase the tensile strength of fibers and to eliminate static and ball-up or gumming during carding has been developed by Harry Miller Corp. The lubricant, called Fibregard, contains a saponifiable colloid which contributes unusual properties of adhesion to surfaces that normally repel moisture and other lubricants and it reduces tension because it provides adequate surface lubrication. Fibregard is said to reduce breakage of treated yarns, increase loom efficiency and insure slick warps. According to the company, it will not discolor white goods or change the shade of dyed goods and it scours out completely. The substance is used as a stock lubricant, applied at the blending machine or picker, for synthetic fibers and blends of synthetics with wool or cotton; as a warp sizing, softener, binder and lubricant on all synthetics or blends of synthetics and cotton or synthetics and wool; as a cone winding lubricant to impart added lubricity to fibers requiring additional lubrication to prevent fuzziness of the yarn and needle burn. Fibregard is said to be instantly soluble in plain water, either hard or soft, hot or cold. It has a pH of 8.0 and a faint pleasant odor.

(Request Item No. L-17)

Acrylic Dyestuff

A second blue has been added to its new line of dyestuffs developed especially for Orlon and other acrylic fibers by Geigy Dyestuffs, Division of Geigy Chemical Corp. The new color is designated as Maxilon Blue RLA and is somewhat redder in shade than Maxilon Blue GLA, previously announced, when compared in natural light but is much redder in artificial light. Like its companion color, Maxilon Blue RLA is distinguished by its exceptional light fastness and good build-up properties. The color yields an interesting range from the lightest pastel to the deepest hues, the production of which are facilitated by its excellent build-up properties.

The company recommends that Maxilon Blue RLA be applied with the use of an anionic retarding agent, Geigy's Irgasol DA, to achieve the utmost in levelness, which keeps rejects down to the point where stripping becomes insignificant. However, satisfactory stripping results can be obtained, if necessary, by a formula which includes 5% chlorine (15% solution), 3% acetic acid 56 and antichlor with 2% bisulphite, in pastel to light depths. Geigy also points out that Maxilon Blue RLA can be applied with cationic type retarders if desired, although this method is not considered as desirable as the use of an anionic type retarder.

Like other colors in the series, Maxilon Blue RLA is recommended only for acrylic fibers. It will only stain or tint, in varying degrees, other fibers such as cotton, spun viscose, spun nylon, silk, wool and filament acetate. In cases where it is desired to obtain the exact same shade on these fibers when blended with or added to fabrics comprised mostly of acrylic fibers, such as in stitching, cross-dyeing on materials with affinity for these fibers may be undertaken after the Maxilon application without affecting the latter.

Among the outstanding properties attributed to Maxilon Blue RLA are high light fastness and excellent exhaustion. Its fadeometer ratings on Orlon 42 are 6-7 for light shades and 7 for the deeper shades. The company claims maximum or near maximum fastness ratings for all other properties. These include: shade change or staining of Orlon or cotton during washing at 160° F.; shade change or staining of wool, Orlon and nylon during fulling for 1½ hours; shade change or staining of Orlon or cotton in the acid perspiration test or alkaline perspiration test; dry cleaning; carbonizing; decatizing; wet cleaning; water bleeding; sea water; chlorination; sublimation; crocking; wet and dry pressing.

Geigy reports it expects to add other colors for acrylics in the near future.

(Request Item No. L-18)

Sprocket Drives

Rapistan-Keystone Co. Inc. has developed 3 new sprocket drives for low-chain-pull overhead trolley conveyor installations. The new units are available with 125, 150 and 200-lb. chain pull capacities. With addition of these units, the company's standard drive capacities now range from 125 to 600 lbs. Sprockets on the units are driven by the output shaft of the reducer which is driven by a belt from the motor. A variable pitch pulley is mounted on the motor shaft. The motor is mounted on a sliding base and has a screw-handle adjustment for changing the pitch of the variable speed pulley. All sprockets are flame cut and bronze-bushed. They are connected to a shear-hub overload device which, when overloaded, shears a pin, thus protecting the reducer.

(Request Item No. L-19)

Hazard Marking Tape

A new roll tape for marking all types of industrial hazards is now available through Westline Products Division of Western Lithograph Co. Packaged in rolls up to 90′, this self-adhering tape is said to be the easiest, fastest and most economical way to mark industrial hazards for temporary or permanent identification.

Available in handy size rolls in 2″ or 4″

TROUBLE-FREE GRINDING . . . ON COTTON CARDS . . . WITH

NEW

ALUMAROY

DRUM GRINDERS

B. S. Roy's latest development . . . an aluminum alloy drum grinder . . . weighs only half that of steel or cast iron models.

This lightweight grinding roll eliminates springing of the top flats caused by the heavier drums and assures even, perfect grinding over the entire surface of each working flat.

For savings on Card clothing . . . better card settings . . . lower maintenance and repair costs, get full details on "ALUMAROY".

"BALANCED"
ROY GRINDERS

B. S. ROY & SON COMPANY

Southern Office and Plant
Linwood at Second Ave.
Gastonia, N. C.
Telephone Gastonia UN 4-2126

widths, Hazardstripe tape applies to any clean surface for instant adhesion, and for as little as 4½ cents per foot. Both Hazardstripe and Hazardchek for all eye hazards eliminate messy painting and stenciling and costly labor set-up. They apply easily, come off cleanly. The pre-printed roll tape with yellow and black stripes can be used on beams, posts, stairs, handrails, projections, dead-ends, lane markings, trucks, docks, hoods, railings, etc.

(Request Item No. L-20)

Drafting Apron Design

An improved design for drafting aprons has been developed by the Dayton Rubber Co. An especially and exclusively engraved inside surface will ultimately replace the traditionally smooth surface common to Dayco aprons, according to the company. The drafting service remains unchanged, however.

Initial production of the new design is confined to the D-60 or larger sizes, to accommodate users of drafting systems not employing fixed centers, who have sought an apron design that would minimize chatter, reduce waste collection and improve the action of the apron over the nose bar.

The new feature is being incorporated into the entire Dayco line as rapidly as retooling permits, the company says, and will be marketed at no additional cost.

(Request Item No. L-21)

Switchgear, Circuit Breakers

The switchgear division of I-T-E Circuit Breaker Co. has announced the complete re-design of its low-voltage power circuit breakers and of the switchgear that makes use of them. The new K-line breakers, 600-volt units in 225, 600 and 1600-amp. frame sizes, claim the following advances.

A spring action mechanism provides manual quick-make action. The first 90% of travel of the handle stores energy in the spring. Only in the last 10% of travel is the energy released. Energy for closure is stored by a motor-driven stored-energy system for electrically-actuated models which is said to cut the drain of the breaker's secondary circuit from as much as 160 amps. to 10 amps. Size of the breakers has been reduced ⅓. Six sub-assemblies take the place of the 130 separate major parts in previous models. Parts replacements are thus greatly expedited, according to the company.

Interchangeable overcurrent trips are now featured, facilitating planned increases in load capacity. Trip units are said to be completely accessible because of more open breaker design. This is true even of the electrically actuated model, the company says. Trip continuous current ratings have been simplified so that 9 trip units now cover complete range of continuous current ratings that formerly required 23 different trip units. An automatic trip indicator shows that the breaker has tripped on overcurrent or undervoltage. The pull-down handle of the breaker is of semi-flush design to help prevent accidental breaker tripping.

I-T-E's new switchgear, in addition to advances of the incorporated circuit break-

MC

***Finest* Coiler you can buy!**

BOTH HEAD AND BASE SWIVEL FOR ADJUSTMENT

SAVES LABOR

EASIER TO INSTALL

TAKES LESS FLOOR SPACE

McDONOUGH
UNIVERSAL CARD COILER
(Patents Pending)

This coiler is its own best salesman. It outsells all the rest put together because it out performs all others. It saves labor by putting more sliver in the can. Its quality construction, including sealed ball-bearings, hardened steel gears, etc., means extra years of dependable service. Ask for free folder with complete specifications.

Let this coiler prove its worth to you in your mill. Have one installed on a

90 DAY TRIAL *Without Obligation*

Since 1890
McDONOUGH POWER EQUIPMENT, INC.
MACHINE & FOUNDRY DIVISION
McDONOUGH, GA., U.S.A.

IRREGULAR PAGINATION

ers, claims the following innovations: Through a "closed-door draw-out" arrangement, the new breakers may be moved to test and disconnect positions without opening the compartment door. In addition to added safety, the company says this provides for maximum cleanliness. A lift shutter, which allows insertion of a crank that moves the breaker in and out, can be padlocked in either test or disconnect positions. The size of the new units has been reduced. Unitized construction has reduced switchgear to 3 basic components: the breaker, the switchgear enclosure and a cradle assembly on which the breaker slides for drawout. (Request Item No. L-22)

For the Mill Bookshelf

Card Drives

Bulletin No. 6100, a 4-page color folder describing the company's card drives, has been issued by T. B. Wood's Sons Co. The booklet contains photographs and diagrams indicating the advantages of the card drives. (Request Item No. L-23)

Polyvinyl Alcohol

A technical manual on the properties and uses of Gelvatol, polyvinyl alcohol, has been published by Shawinigan Resins Corp. The manual contains full information on the physical properties of the various Gelvatol grades. In separate sections it deals with the physical properties, modifications and uses of the chemical. Also included in the booklet is a section covering selected chemical reactions of polyvinyl alcohol. (Request Item No. L-24)

Silent Chain Drives

A new 88-page book about silent chain drives is now available from the Link-Belt Co. The book contains tables of service factors, ratings, chain length and center distance computations. Pre-engineered stock drives are listed in one 16-page section. A 22-page section outlines the procedures for selection of engineered drives. Another section on drive components lists available chain widths; chain and wheel dimensions; wheel tolerances, materials and other data. (Request Item No. L-25)

Basic Chemicals

The industrial chemicals division of Olin Mathieson Chemical Corp. has issued a 16-page booklet describing the characteristics, grades and containers for 24 basic chemicals used by industry. The booklet contains information on organic, inorganic and specialty chemicals, and lists the location points for each product. (Request Item No. L-26)

Overhead Conveyors

A 1-volume "library" on overhead conveyors is now available from Rapistan-Keystone Co. Inc. Collected in a single folder are engineering data, field reports of use of overhead trolley conveyor systems, product bulletins, material on features of Rapistan conveyors, tips on maintenance and other information. The folder includes pictures, charts, drawings and diagrams of essential factors to consider in selecting, installing and maintaining and operating Rapistan-Keystone equipment. Also included are detailed descriptions on components such as trolleys, chain, types of drives, traction wheel and roller turns, take-ups, carriers, hooks and accessories. (Request Item No. L-27)

Handling Hydrogen Peroxide

Two wall charts containing suggestions on how to handle hydrogen peroxide safely and how to test hydrogen peroxide bleaching solutions are being offered by Becco Chemical Division, Food Machinery and Chemical Corp. The charts, measuring 16" x 21" and printed in large type, are designed to be hung at points of peroxide storage and usage for quick reference. The safety chart lists handling precautions and recommended action in case of contact of hydrogen peroxide with the skin or eyes; rules for handling and unloading drums; and rules for unloading tank cars. The testing chart covers peroxide concentrations and alkali concentrations. The charts are free on request. (Request Item No. L-28)

General Electric Busway

A 12-page bulletin describing its new 100-amp. plug-in Flex-A-Power busway has been issued by the distribution assemblies department of the General Electric Co. Known as the Type DH, the new busway is available in both 3 and 4-pole construction. It is designed for indoor use where plug-in receptacles over a wide area are necessary or desirable. The bulletin lists features, application data, ratings, construction information, description, dimensions, weights, installation instructions and guide-form specifications. (Request Item No. L-29)

Hydraulic Fluids

Publication of a 24-page bulletin on the selection, operation and maintenance of hydraulic fluids for industrial machinery has been announced by Vickers Inc. It describes the characteristics (desirable and undesirable) of petroleum base and fire-resistant hydraulic fluids, tells how to select the best fluid for a given job, how to care for it, and what to do about trouble when it occurs. Some of the subjects are: viscosity recommendations, prevention of rust and corrosion, reservoir requirements, connections and leaks, filters and strainers, cleaning the system and preventive maintenance. (Request Item No. L-30)

Lift Truck

Towmotor Corp. is offering a new 4-page folder which describes in detail the design, construction and operating features contained in the Model 460 Towmotor lift truck. The new lift truck, which is available in gasoline, LP-gas or diesel models, has a load-carrying capacity of 4,000 lbs. at 24" load center. The unit combines compact size, flexibility and the power necessary to handle bulky loads weighing up to 2 tons, according to the company. (Request Item No. L-31)

Strap Feeder

A 4-page folder describing its new power strap feeder, Model PSF-1, is being offered by Signode Steel Strapping Co. By use of schematic drawings, the folder describes and illustrates how the power strap feeder answers the problem of rapidly and conveniently feeding vertical straps around large packages or skid loads. In many cases, they say, it eliminates any need for a back man or helper to assist the strapping operator. (Request Item No. L-32)

Temperature Control Valves

A new 6-page bulletin from OPW Corp. is titled "How to Select, Size and Order Temperature Control Valves." The bulletin tells how to select proper body material, valve trim, thermal systems and other facts. Detailed formulae and examples show how to assure proper valve sizing. It lists information needed by manufacturers to furnish proper valves. Originally prepared for use of OPW's own sales department, it is now available to valve users free of charge. (Request Item No. L-33)

Speed Drives

A 16-page, 4-color booklet describing the General Electric Co.'s new line of packaged direct-current adjustable speed drives is now available. Included is a power unit data slide rule for calculating case dimensions, horsepower, speed range, power unit weight and motor frame size. The speed variators, designed for use wherever accurate adjustable speed is required, features a static excitation system using silicon rectifiers for decreased maintenance, and a new amplistat regulator to accurately compensate for load changes. (Request Item No. L-34)

Union Carbide Guide

The 1958 "Physical Properties" booklet has just been issued by Union Carbide Chemicals Co. This 28-page booklet is a guide to Carbide's products and services. The latest physical property data is present-

ed on more than 350 organic chemicals. An alphabetical index is included for the convenience of the user. The 50 new chemicals introduced by Carbide since the previous edition are featured.
(Request Item No. L-35)

Peroxide Bleaching

The new activated hydrogen peroxide bleaching process for cotton, developed by the Solvay Process Division of Allied Chemical & Dye Corp., is described in a comprehensive new technical booklet being offered by the company. The booklet discusses advantages of the process, operating details, commercial application and savings in cost of chemicals. It includes quality comparison tables that show the increase in whiteness, whiteness retention, purity, absorbency and dyeability when the process is used. (Request Item No. L-36)

Fatty Acids

"Specifications and Characteristics of Fatty Acids" is the title of a new booklet offered by the fatty acid sales department of Emery Industries. The booklet is a section of the "Emeryfacts" series and covers Emery's line of fatty acids, including Emersol Stearic and oleic acids, Hyfac hydrogenated fatty acids and glycerides, Emery animal and vegetable fatty acids, and Hyfac castor oil derivatives. The brochure also contains a list of the current technical literature offered by Emery.
(Request Item No. L-37)

Fork Truck

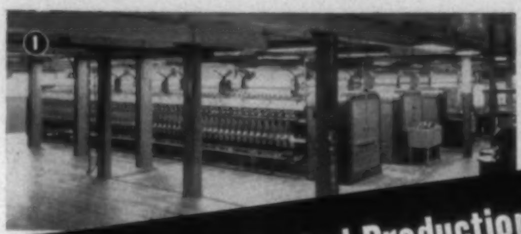
Available from the Elwell-Parker Electric Co. is a 4-page brochure illustrating and describing its Elpar Model F-26T2, 2,000-lb.-capacity electric powered fork truck. The truck is designed for those applications where quick handling and tiering of loads, often in confined areas, is an important factor. The brochure is illustrated with application and product design photographs, sketches and engineering drawings. Design specifications in easy-to-read form are included. (Request Item No. L-38)

Regulator Valve Sizings

A new 4-page bulletin, J-SC, showing how to size OPW-Jordan sliding gate regulator valves has been released by Jordan Corp. Technical data, applying to all makes of valves, tells how to adjust sizing for variations in pressure, temperature, viscosity, specific gravity, etc. Charts cover steam, liquid and gas services.
(Request Item No. L-39)

Conversion Factors

A wall-chart reference table of conversion factors for engineers and other executives has been published by Precision Equipment Co. Included are common conversions such as inches to centimeters, of watts to horsepower, as well as many conversions that are difficult to locate in reference manuals.
(Request Item No. L-40)



D&F "Coordinated Production"

... Proves
Profitable for Packard Mills

At Packard Mills in Webster, Massachusetts, where quality rates high, Packard men have learned over the years to count on D&F "Coordinated Production" machinery to make every possible phase of production profitable.

In producing fine cloth, each of these D&F products plays an important part: ① D&F Spinning Frames, ② D&F cards, ③ D&F Traverse Grinders, ④ D&F Nappers, ⑤ D&F Pickers, ⑥ D&F Dressing Equipment, ⑦ D&F Dusters, D&F Spare Parts, D&F Supplies of Condenser Tapes & Aprons and Card Clothing. Each contributes to high quality, production and efficiency — when properly specified and used. The Advice, Counsel, and Service of D&F Technicians help to fulfill these conditions.

This is the D&F "Coordinated Production" Package Plan for textile mills. Mills following this plan can always rely on Davis & Furber (as the one overall source of supply) to help solve mill production problems.

New mills being planned, or existing mills considering expansion, are taking advantage of the D&F "Coordinated Production" Package Plan. You are invited to investigate it in whole or in part. There is no obligation.

Begin with a request for a D&F "Coordinated Production" in-the-mill survey. The confidential study and analysis that results often produces recommendations which can tie D&F right into your production requirements. At the same time, D&F will recommend any accessories, spare parts or supplies that may be needed.

For *new-plant quality and yield*, for modernization of existing equipment, for properly specified accessories and supplies, for production that can deliver profits — call on Davis & Furber, North Andover, or Charlotte.

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DAVIS & FURBER
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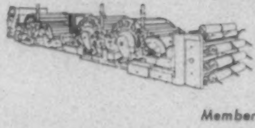

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AND MANUFACTURERS
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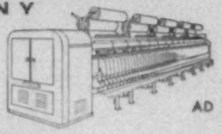

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Save 45% and more

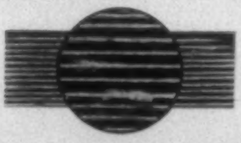
Dayco Slasher Rolls pay for themselves in 6 months

4 outstanding advantages of Dayco Thoro-Size Slasher Rolls allow you to run more beams of perfectly sized warp in less time and at an astonishingly low cost!

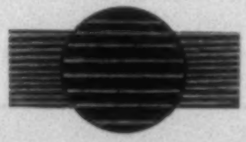
FAST STARTING Dayco Slasher Rolls won't absorb sizing . . . can't grow hard over the week-end. Always resilient, they're ready to go without soaking or warming up and stay in place while you're changing sets.

DAYCO ROLLS have a uniform cushion which improves size pick-up by the yarn, yet meters out only the exact amount of starch needed for a clean, thorough job. Excess size is squeegeed back into the tank for re-use.

BETTER FINISH results when you use seamless Dayco Rollers. Flawless surface will not streak or spot, leaves no lap marks and won't flatten yarn. These comparative photographs show the difference.



Irregular sizing denotes inadequate control of ordinary slasher rolls



Clean, uniform sizing proves superior performance of Dayco slasher rolls

PAID FOR IN 6 MONTHS, Dayco Slasher Rolls give you more than a year of round-the-clock operation before they need regrinding. Unaffected by oils, chemicals or size solutions, Dayco Rolls can be renewed over and over for extra lifetimes of wear.

Versatile Dayco Rolls can be used with any type of yarn and are available in a finish which matches your particular sizing requirements.

Your Dayton Representative can give you the full story on how you can save time and money while improving your slashing with Dayco Thoro-Size Slasher Rolls. Ask the next time he calls or write The Dayton Rubber Co., 401 S.C. Nat'l Bank Bldg., Greenville, S.C.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving

Serving The Textile Industry

Technical Service Dept. Established By Cyanamid

A technical service department has been established by the fibers division of American Cyanamid Co. to serve customers and other processors of its Creslan acrylic fiber. The department will include Bernard W. Crowe, technical service representative, fabric development; William J. Clark, technical service group leader, dyeing and finishing; Philip B. Burgess, technical service representative, spinning; Nils R. Sorenson, technical service representative, knitting; and David Shieldkret, technical service representative, wear testing. Robert J. G. Schofield, whose appointment was previously announced, heads the department as manager of technical service.

McLean Trucking Co. Acquires Service Inc.

McLean Trucking Co. of Winston-Salem, N. C., has received approval from the Interstate Commerce Commission to acquire Service Inc., another Class 1 motor freight common carrier. The acquisition involves an exchange of 32,500 shares of McLean common stock for all outstanding shares of Service Inc. common stock, according to M. C. Benton Jr., vice-president and treasurer of McLean. Until a merger application is approved, Service Inc. will be operated as a wholly-owned subsidiary of McLean, Mr. Benton said.

Service Inc. maintains terminals at Charleston and Huntington, W. Va.; and at Lexington and Louisville, Ky. When the merger is completed, four additional terminals will be added to the system and operations will be extended into the state of Kentucky, and to many additional Western points served by interchange with connecting carriers through the Louisville gateway, according to the company.

New Coal Preparation Plant Nearing Completion

The Garland Coal Co. of Knoxville, Tenn., expects to have in operation soon after the beginning of the year the most complete wet-washing and air cleaning and drying plant in the United States. This facility, the Coronet Jewell No. 2 plant located near Whitewood, Buchanan County, Va., will permit the separate cleaning and sizing of Coronet Jewell low volatile and Virginia by-product Splash Dam coals. The plant will be served by the Norfolk & Western Railway and will have six railroad tracks.

Coal will be delivered to the crusher house either from the railroad tracks or through a truck dump. A belt conveyor will take the coal after it is crushed to five raw coal bins. Another belt conveyor will take the coal being prepared from the bins to the tipple. This will be equipped with a Link-Belt Baum-type jig and Roberts & Schaefer Stump Air-Flow pneumatic cleaners. Allis-Chalmers de-watering and sizing screens of the latest type will be used.

The Coronet coal will be shipped into the plant raw from the mine and shipped out the next day, after it has been prepared, in the same cars. It is expected the capacity of Coronet coal going through the plant will run up to 4,000 tons a day. On another shift the Splash Dam coal will be processed through the same plant and sent out the next day, again in the same cars. Probable maximum production of the Splash Dam coal will be about 3,500 tons daily.

The facility, referred to as a prescription plant, will have blending facilities so that if a customer wants a mixture of Coronet Jewell and Splash Dam coals, Garland will be able to provide it and make shipment of coal ranging between 21 and 29% volatile. Flexibility of the plant is illustrated by the fact that six grades of coal may be prepared simultaneously. Constant laboratory control will insure an exact product of metallurgical coal.

Textile Shops To Handle Gaulin Line Of Machines

W. A. Hewitt

The Textile Shops, Spartanburg, S. C., has been appointed exclusive Southeastern distributor of Gaulin homogenizers, colloid mills and stainless steel pumps, according to an announcement by Manton-Gaulin Mfg. Co. of Everett, Mass. W. A. (Bill) Hewitt, formerly Southern manager for Manton-Gaulin, is joining the Textile Shops as sales engineer and will co-ordinate the firm's complete warp preparation equipment sales and service.

Net Income Down For Celanese Corp.

A net income of $8,546,368 for the 9 months ended September 30 was reported by Celanese Corp. of America and domestic subsidiaries. The earnings, equivalent to 86 cents a share of common stock, compare with 1956 earnings during the same period of $8,901,652 or 92 cents a common share. Net sales for the period amounted to $145,569,988 as compared with net sales of $136,974,216 for the same period last year. For the 3-month period ended September 30, net sales were $50,264,997 and earnings $2,932,478. This compares with net sales of $42,552,949 and earnings of $2,716,050 during the same period last year. The company reports that sales are improving in Celanese yarns and fibers and in the company's chemicals and plastics.

Nopco Chemical Co. Marking 50th Year

Nopco Chemical Co., Harrison, N. J., is currently celebrating its 50th anniversary. The company was founded in 1907 by Charles P. Gulick and Arthur Phillips, who were convinced of the marketable future of sulfonated oils. Founded with an investment of $1,000, it is currently grossing 28 million dollars. Today the company includes five plants and offices and warehouses throughout the U. S. and Canada. The textile industry was Nopco's first customer and is still one of the largest users of the company's products.

Proctor & Schwartz To Lease N. C. Plant

Proctor & Schwartz Inc., Philadelphia, Pa., textile machinery manufacturer, will lease for at least 20 years a plant to be built by a local industrial promotion organization in Waynesville, N. C. The company will produce fiber processing machines at the plant and will subsequently add sheet metal work and manufacture of industrial drying equipment. The Haywood County Improvement Foundation has raised about $200,000 by popular subscription to help finance the plant. Bids on the construction of the plant were opened in September.

Ballabox Co. Begins Operation In N. C.

Madison A. Ballagh has begun operation of the Ballabox Co. in the Schoenith Building in Charlotte, N. C. The company will specialize in the manufacture of all types of folding cartons and die cut inserts for the textile industry. Mr. Ballagh has been connected with the folding carton industry for over 20 years.

Goodyear Latex Plant Recently Expanded

Completion of new $2,750,000 production facilities at its synthetic latex plant in Akron, Ohio, has been announced by Goodyear Tire & Rubber Co. The new facilities will boost the rated capacity of the plant to 27,500 tons annually. Originally opened in 1942, the installation, built and operated by Goodyear for the Government, was one of the first of the nation's synthetic rubber plants to go into full production. Sales of synthetic rubber latices produced by the plant are marketed under the name of Pliolite by the Goodyear Chemical Division. One of the chief uses of Pliolite latices is in textile coatings.

U. S. Rubber To Enter Polyethylene Yarn Field

United States Rubber Co. has announced that it will enter the polyethylene yarn business as a producer and seller before the end of the year. This will be the first time the company, which has been in textiles since 1917, has become a producer of plastic yarns. The new yarn will be produced at Providence, R. I., in a plant of the company's footwear and general products division. The textile division will be responsible for sales. The company said it decided to enter the polyethylene yarn business because its market research studies had convinced it that this business has tremendous growth potential, and that there will be room for another manufacturer of top quality polyethylene yarns.

U S Bobbin & Shuttle Announces Changes

The U S Bobbin & Shuttle Co., Lawrence, Mass., will cease production of combs, rolls, spools and yarn carriers at the end of the year, but will continue to turn out automatic loom bobbins. The company says the move is necessary due to the "depressed condition in the textile industry and the lack of volume needed for economical operation." This action will not affect the expansion of the company's facilities in Greenville, S. C. The Greenville facilities are being expanded with a view toward making them more self-contained, according to the company. The firm recently obtained a city building permit for construction of a $21,500 varnish plant at its present site in Greenville.

Hennis Freight Lines Acquires Griggs Trucking

Hennis Freight Lines Inc. of Winston-Salem, N. C., has announced that it has complied with all requirements of the Interstate Commerce Commission order issued by Examiner Levi M. Pettis, thereby completing the integration of Griggs Trucking Co. into Hennis. Hennis, under the arrangement, becomes the owner of all franchises, vehicles and property previously held by Griggs. With the acquisition, Hennis becomes the third largest carrier in the South, and one of the first 25 in the nation.

Metro-Atlantic Inc. Named U. S. Agent For Celersel

Metro-Atlantic Inc., Centredale, R. I., has been appointed sole distributor for Celersel in the U. S. Celersel is a patented accelerator and dye bath assistant for use in dyeing of wool and other animal fibers. Its addition to the dye bath has a noticeable and permanent swelling effect on wool fiber, permitting more rapid diffusion of the dyestuff molecules to give faster dyeing times and better levelling. The swelling also permits the metallization of the dye to take place more rapidly and without the need for long boiling. Celersel acts as a buffer which prevents the harshening effect and loss of strength which is normally caused by the action of acids and chrome on the wool. Since Celersel tends to prevent fiber damage during dyeing and chroming, there is an increase in tensile strength over dyeings produced conventionally, it is said.

McLean Trucking Co. Orders IBM Data Processing System

A new electronic "brain" with high-capacity "memory" in the form of magnetic tapes has been ordered by McLean Trucking Co. for use at its general offices at Winston-Salem, N. C. This versatile equipment—known as the IBM Tape 650 Data Processing System—makes it possible to store an almost unlimited volume of business information for instant use. Scheduled for installation early in 1959, it will be the first computer of its kind in the motor trucking industry. The new installation will make it possible for McLean to continue fast processing of data which enables accurate predictions of requirements for mobile equipment based on the peak shipping seasons of various industries.

Sauquoit Appoints John L. Stickley

Sauquoit Silk Co. of Scranton, Pa., has announced the appointment of John L. Stickley Co. of Charlotte and New York as sales representatives for its textured continuous filament yarn production.

Sauquoit is one of the more important processors of synthetic yarns, specializing in Helanca yarns, as well as being pioneers in the field of smooth-textured yarns popular in the outerwear trade.

John L. Stickley has been in the yarn market for over 35 years. The organization is one of the major factors in the distribution of turbo and high bulk Orlon, Acrilan, Dacron and nylon, as well as woolen and worsted yarns.

Colson Corp. Changes Sales Organization

The Colson Corp., producer of materials handling equipment, has announced several changes in its sales organization. Sales headquarters for casters, formerly located at the company's headquarters in Elyria, Ohio, have been moved to the new Jonesboro, Ark., caster plant. It will remain under the direction of D. F. Adams, general sales manager. The special products division is now handling all sales for Colson's electric hydraulic lifting equipment, conveyor systems and Structo steel angles. Sales of the Colson Handler and Motowlift parts will remain in Elyria. The Motowlift fork truck was formerly manufactured by the Service Caster and Truck Co., purchased by Colson in 1954.

Franklin Process Acquired By Indian Head Mills Inc.

Franklin Process Co., which operates yarn dyeing plants at Providence, R. I., Philadelphia, Pa., Greenville, S. C., and Chattanooga, Tenn., and a spinning mill at Fingerville, S. C., has been purchased by Indian Head Mills Inc. The latter firm produces Indian Head brand cotton fabrics, Pequot brand sheets and pillow cases, and other cotton goods. Franklin Process will be operated as a division of Indian Head, with no changes in management or operating personnel.

Arnold, Hoffman Forms Techno-Commercial Dept.

Formation of a techno-commercial department within Arnold, Hoffman & Co. has been announced by company president, W. Chester Cobb. The department was formed to plan the company's development and expansion program. Initially it will be under the direction of Dr. J. R. Myles of Imperial Chemical Industries Ltd., who will be assisted by Dr. Charles A. Robinson, previously with Arnold Hoffman's research department. Additional staff members will be assigned as the program develops.

THE HARTFORD MACHINE SCREW CO. has announced the completion of its new manufacturing plant just outside of Greenville, S. C. The 20,000-square-foot plant, completely air conditioned for precision manufacturing of spindles and bobbin hangers, is now in full production of Hartford equipment formerly produced in Connecticut. Representing an investment of a half million dollars, the plant was located in Greenville so that Hartford could improve its service to Southern mills. Hartford pioneered in the production of anti-friction spindles, and since 1945 has built more than 5,000,000 of them, principally, the pre-lubricated, ball bearing type. In additioning to improving customer service, the new facility will permit Hartford to carry on the development of allied products.

WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Talk of resignation of the President, emanating in Congress, is very close to sheer nonsense, and has a political motive. Under the Constitution a President may resign, but unless he is impeached, there is nothing to say he must resign; his tenure in office is absolute. Much of the commotion for him to step down is due to the fact that the present White House staff, headed by Sherman Adams, is unpopular with members of Congress. It is felt Adams has been set up in the un-Constitutional office of "deputy president," and has done much to prevent the President stirring the imagination of the country.

This country has an inflexible form of government, controlled by a Constitution that makes no provision for emergencies. It does not provide for a vice-president "sitting in" for a President. While the Secret Service protects the President from violence, it cannot protect him from germs, virus or colds. And Presidents are not always "iron" men.

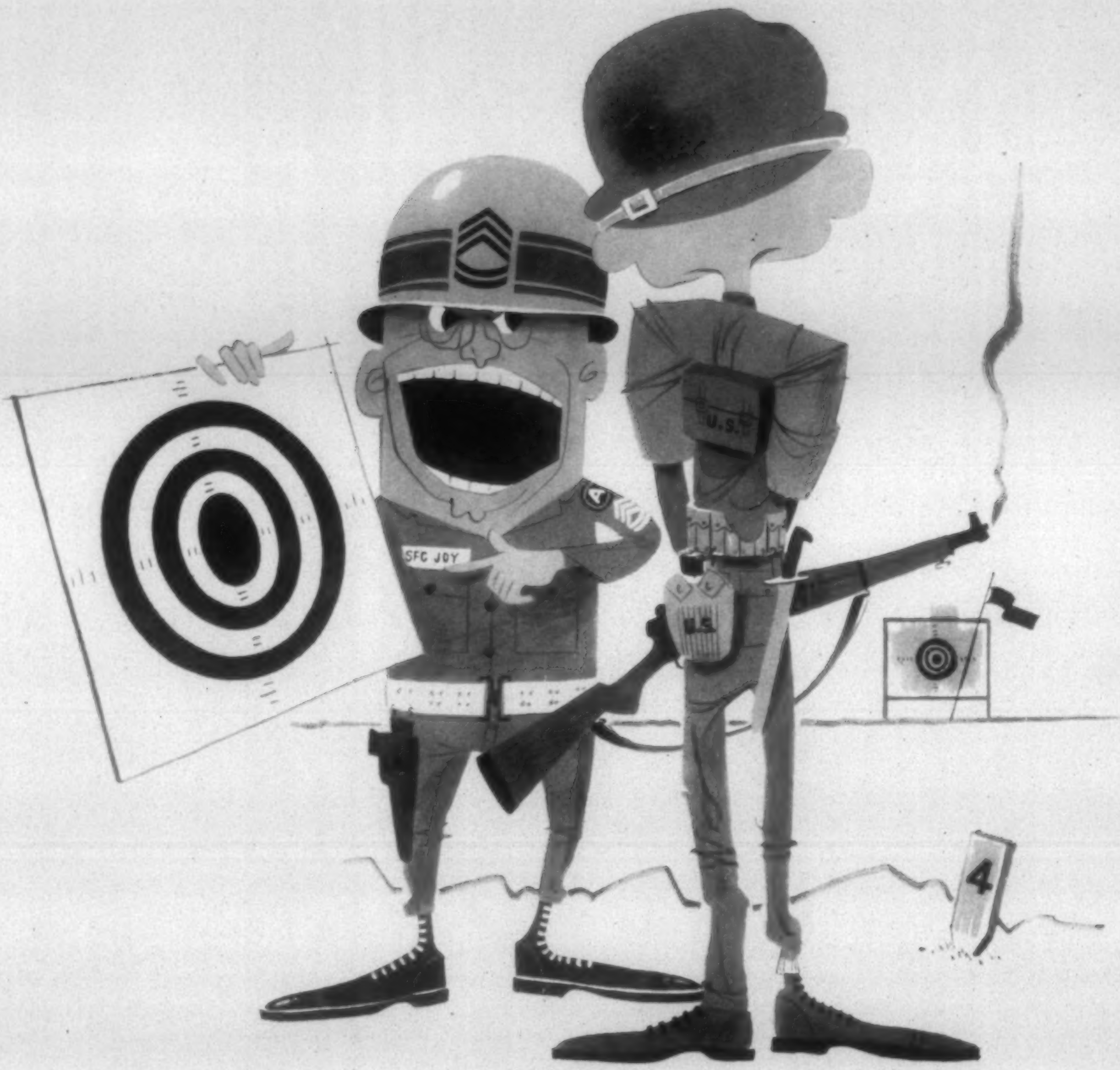
The sky is the limit on initial spending proposals that will come into the new Congress, with national defense reaching for a new high. The legislative attitude is "do it with money," although $440 billion has been spent for national defense since the war's end. The word "economy" has never been popular in Congress, and this time it will be thrown out of the window. Hope for tax reductions now, or in the foreseeable future, is a dim, evanescent dream; it may come sometime when little growing-up Johnny is a grandfather, but not next year.

It is really hard to tell which party is split the most and deepest in this Congress, for in reality there are four parties. The Democratic slogan is "anything the Republicans are for we are against," but there they stop, and split into Northern and Southern factions. "Modern" Republicans have only brickbats for "conservative" Republicans, and are as much split on some issues as the Democrats.

The Administration is standing at the crossroads on school integration, and wondering how much damage it has sustained in the Little Rock episode. Political soundings show that the sending of troops to Little Rock met with little more approval among white masses in Northern states than in the South. Integration is a growing irritant in most Northern states, and it does not appear to be a big G.O.P. vote getter among Negroes, either. Some Negroes say the Administration has gone only half far enough; many whites say it has gone too far.

Refusal of retired Supreme Court Justice Reed to serve as chairman of the new Civil Rights Commission was a shock to leading civil rights proponents. They had hoped for the selection of a leading "rightist" who would lead a crusade in Southern states, and fill the air with material that could be used to political ends in Northern centers. Apparently Mr. Reed sensed this intent, as did his brethren on the bench. They are said to have advised—even urged—him not to serve.

The President is fixed in his desire that the new Commission does not point accusations at the South just to please radical racists or promote personal political ambitions. He is said to be coming to the conclusion that



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1926 "IF IT'S PAPER" 1957

one of the dire misfortunes of his regime is the radical wave of racial agitation and sectional hatred that has been stirred up, and driving the country wider apart than it has been in 75 years. White House aides refuse to even discuss the tenor of letters that have come from the South since Little Rock. But the mail of Senate and House members has been sizzling hot.

Presidential aides are not enthusiastic over the warmth of the reception accorded the President on a recent visit to Georgia. The people were polite and hospitable, as is their way, but there was little spontaneity. Local wiseacres said that while the President had carried Richmond County, Georgia, by nearly 3,500 votes a year ago with an otherwise Democratic majority of 6,819 votes, he would be lucky to get a total of 2,000 votes now.

A sweeping program in school aid, minus aid for school construction, is being hammered out by the Administration. It is an entering wedge; there will be more later. The aid package is for four or five years, initially costing about $300 million a year. It calls for college schlorships, fellowships for graduates, pay for science equipment, support for foreign language training, and more aid for Federal "impacted" areas. The aim now is to avoid the controversies that have doomed two construction aid bills to defeat. Control would be kept on the state and local level.

The decision of Senator Jenner (R., Ind.) not to seek re-election next year hinges squarely on refusal of the Administration to support him. Jenner was an ardent adherent of Senator Taft, and strongly supported Senator McCarthy. His attacks on Communism, and investigative work as a member of the Senate Subversive Activities Subcommittee, has been continuous and vigorous. He has consistently attacked "modern Republicanism," and incurred the dislike of the whole White House. He is the sixth Republican senator to say he will not seek re-election, all of them former Taft adherents. The others are Payne (Me.), Smith (N. J.), Knowland (Cal.), Martin (Pa.) and Williams (Del.).

Worry is beginning to settle over Republican House members from closely contested districts in the Central and Far Western states. Party victories a year ago were by thin margins in these states. The farm price situation is bringing increased criticism, factory workers are complaining over reduced working time, and housewives are bitterly complaining about food costs.

"Have not" countries are stepping up their demands for foreign aid, gauged to what they think is bigger spending in the new session of Congress. Tito threw up the sponge when he found he is to get less, not more, and there is broad question of what he has been doing with what he has been given. France wants more "big loans" this time to save it from utter bankruptcy. Complaints of "unfair treatment" have poured into the State Department, but all of them say they want no advice or supervision in the spending of these funds.

Ouster of the teamsters union from A.F.L.-C.I.O. does no more than release them from whatever restrictions and inhibitions they may have held. Beck is still in the driver's seat, and Hoffa is still the crown prince. The only changed faces are those who have fallen out with Beck and Hoffa, or who, in some cases, have been put away in jails and penitentiaries. It has not been made known where a single union thug or racketeer has been fired.

Labor Secretary Mitchell's "middle of the road" legislative proposals for labor reform fell on unsympathetic A.F.L.-C.I.O. ears. But even colder reception awaits them in Congress. What form new legislation will take remains to be seen, but certainly the unsupervised welfare billions of the unions is tempting the racketeers, and offers the country's alrgest plum for exploitation. It is not easy to disregard the McClellan Committee's phrases, such as shocking abuses, embezzlement, collusion, kickbacks, exorbitant insurance charges, malfeasance, mismanagement, waste, unsound operation, looting and stealing.

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textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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Great Migrations

Great migrations are fast remaking the one region of the U. S. which has been called the nearest thing to a "nation within a nation." For a large part of this, the South itself is contributing but it is also being moved by forces over which it has no control. The nature of the "swaps" in all aspects is profound.

The culture of cotton, for instance, which more than any other factor molded the agrarian civilization of the South, is dramatically moving West. Today California with its irrigated lands and relatively high degree of mechanization is a top producer, just behind Mississippi. The Southeast still grows cotton, but on less acreage.

To complete the picture, cattle production is coming to the South Atlantic states about as dramatically as cotton is going West. Broiler production, particularly in the South Atlantic states, has doubled and redoubled itself within a few years. Constantly less labor is being required on the farms.

Probably it is surprising to some to realize that New York, with a non-white population of close to a million, has more Negroes than most Southern states—the exceptions being South Carolina, Georgia, Mississippi and Alabama. In the last decade, the non-white population of the 13 Southern states rose a scant one-half of one per cent. Seven states in the South showed a decrease.

White population at the same time jumped 16 per cent in the South. The Negro is going to the big industrial states of the East and Midwest, where the non-white population is increasing several times faster than the white population.

The white tenant farmer is moving to urban centers to find industrial employment. In the wake of mechanization and a changing economy, the "cabin in the cotton" and the tenant farmer are disappearing. Low price cotton and the boll weevil started the migration; a quarter century later, rapid mechanization and expanding industrialization are accelerating it. Farms are growing larger. Yet the South still has to support too many people on the land, the economists all say.

The other migration is industrial. Plants in the East are continuing to move South. But mainly the South is simply getting a great share of new industrial plants. Per capita income is rising faster in Dixie than elsewhere though it continues to lag about a third behind the national average. On the average, a multi-million dollar industrial plant locates in the South every working day. In small town after small town, giant industrial plants rise.

Since the war expanding industrialization has provided over a million new Southern jobs. Often the worker lives on a small farm and works in the factory. Research-mindedness, modern plants, the human quality of the Southern worker who is proud of his skills, and a friendly civic atmosphere are all factors in the picture.

New plants, new machines, a relative absence of labor turnover and labor strife, and a willingness to accept technological advancement have all contributed, along with a modern industrial management, to what is usually termed the South's "enlightened" industrial revolution.

Too short range economic planning by communities can, of course, conceivably do much to hamper or even disrupt the orderly industrial growth of the South. Long range consequences should always be appraised. Certainly, on the other hand, where an adequate labor supply is available, as well as other considerations, the South would do well to go out and seek industries which are compatible with the concepts that have enabled the region to overcome what at one time might have seemed insurmountable obstacles and to pace the nation in the last few years in industrial growth and economic development.

The fact is the shift from agriculture to industry has come and is coming to the Southeast several decades later than it came to other parts of the country. It is coming to

Season's Greetings

Our management and staff extend every
good wish for a joyous holiday season . . .
and a New Year filled with happiness,
peace, prosperity and good health.

—The Editors

the South, too, at a time of greater technological advancement and application, so that the region benefits all the more.

The labor supply in the Southeast, its abundance of raw materials and its ready market for an expanded volume of manufactured goods, have been the big forces behind Southern industrial development. In this respect, too many people have equated the region's availability of labor with "cheap labor."

New plants don't want *cheap* labor, but they want labor supply itself and *low labor costs*—a different thing, indeed. Labor costs are only partly determined by wage rates. The important thing is labor productivity. However, labor turnover, absenteeism and the absence of labor strife are all things that vitally affect labor cost.

The accusation or inference has been and is sometimes made that the South owes some part of its new industrial bloom to the exodus of plants from other areas to escape unionization, but anyone who tries to appraise the picture realistically knows that this has not been a significant factor in an over-all sense.

Dr. Frank J. Soday, chairman of the board of trustees of the Southern Association of Science and Industry, seems to have squelched this too-often-heard insinuation, even if only by indirection, in a discussion before this year's annual meeting of the Southern Governors Conference at Sea Island, Ga.

Traditionally, of course, the Southern industrial worker has tended to shy away from the lures of organized labor, and the South remains still the least organized area of the United States. But the hypothetical question concerning this was put to Mr. Soday by one governor: Suppose, at some day in a vague future, unionization should become widespread in the industrial South to the extent that it is now in some areas outside the South—would the South then still be attractive to industry?

Without any hesitancy, Dr. Soday replied, "Yes. Southern labor, organized, is still more productive than Northern organized labor in certain industries." Then he went on to add that the "right-to-work" laws which exist in most Southern states are "a powerful attraction" to corporation executives. These laws, he pointed out, do not prevent unionization, nor do they compel it, and they are part of a "good business climate" along with the availability of good productive labor.

More On Non-Wovens

We are most appreciative of the many kind remarks passed on to us in regard to the special report on non-woven textiles carried in our October issue. It is obvious from the number of requests for reprints that we have received that interest in this field is at an all-time high. Our initial supply of reprints was quickly exhausted, but a second printing has been delivered and we are now in the process

TEXTILE INDUSTRY SCHEDULE

— 1958 —

Jan. 8 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Jan. 11 (Sa)—Board of Governors meeting, **SOUTHERN TEXTILE ASSOCIATION**, The City Club, Charlotte, N. C.

Jan. 13-14 (M-Tu)—Annual meeting, **NATIONAL COTTON COUNCIL**, Hotel Westward Ho, Phoenix, Ariz.

Jan. 30-Feb. 1 (Th-Sa)—Annual conference, **TEXTILE DIVISION, AMERICAN SOCIETY FOR QUALITY CONTROL**, Clemson House, Clemson, S. C.

Feb. 5 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Mar. 5 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Mar. 6-7 (Th-F)—Spring meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, Poinsett Hotel, Greenville, S. C.

Mar. 13-14 (Th-F)—Spring meeting, **SOUTHERN TEXTILE METHODS AND STANDARDS ASSOCIATION**, The Clemson House, Clemson, S. C.

Mar. 18-21 (Tu-F)—Spring meeting, **A.S.T.M. COMMITTEE D-13 ON TEXTILES**, Sheraton-Park Hotel, Washington, D. C.

*Mar. 20-21 (Th-F)—Textile Engineering Conference, **AMERICAN SOCIETY OF MECHANICAL ENGINEERS**, North Carolina State College, Raleigh, N. C.

Apr. 2 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

Apr. 10-12 (Th-Sa)—Annual convention, **AMERICAN COTTON MFRS. INSTITUTE**, Hollywood Beach Hotel, Hollywood, Fla.

Apr. 11-13 (F-Su)—Spring meeting, **PIEDMONT SECTION, A.A.T.C.C.**, Washington Duke Hotel, Durham, N. C.

Apr. 16-18 (W-F)—Annual meeting, **ALABAMA TEXTILE MANUFACTURERS ASSOCIATION**, Hotel Buena Vista, Biloxi, Miss.

Apr. 23-26 (W-Sa)—Annual meeting, **COTTON MANUFACTURERS ASSOCIATION OF GEORGIA**, Boca Raton Hotel, Boca Raton, Fla.

Apr. 24-26 (Th-Sa)—Annual convention, **PHI PSI TEXTILE FRATERNITY**, Philadelphia, Pa.

Apr. 30-May 1 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, The Clemson House, Clemson, S. C.

May 3 (Sa)—Spring meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

May 7 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

May 19-24 (M-Sa)—**NATIONAL COTTON WEEK**, sponsored by the National Cotton Council of America.

May 26-29 (M-Th)—**NATIONAL PACKAGING CONFERENCE AND EXPOSITION** (sponsored by American Management Assn.), New York Coliseum, New York City.

June 4 (W)—**A.A.T.T.**, Della Robbia Room, Vanderbilt Hotel, New York City.

June 19-21 (Th-Sa)—Annual convention, **SOUTHERN TEXTILE ASSN.**, The Grove Park, Asheville, N. C.

June 22-27 (Su-F)—61st annual meeting, **AMERICAN SOCIETY FOR TESTING MATERIALS**, Hotel Statler, Boston, Mass.

Sept. 9-10 (Tu-W)—Fall meeting, **THE FIBER SOCIETY**, Montreal, Canada.

Sept. 11-12 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSOCIATION**, The Cloister, Sea Island, Ga.

Sept. 19-20 (F-Sa)—Fall meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, Hotel Barringer, Charlotte, N. C.

Oct. 1-2 (W-Th)—Seventh annual **CHEMICAL FINISHING CONFERENCE** (sponsored by the National Cotton Council), Washington, D. C.

Oct. 6-10 (M-F)—**SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 14-17 (Tu-F)—Fall meeting, **A.S.T.M. COMMITTEE D-13 ON TEXTILES**, Sheraton-McAlpin Hotel, New York City.

Oct. 25 (Sa)—Fall meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

Oct. 30-Nov. 1 (Th-Sa)—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Conrad Hilton Hotel, Chicago, Ill.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

**Listed for the first time this month.* *‡Tentative listing.* *†Changed or corrected from previous issue.*

of filling the backlog. If you'd like a copy, just drop us a line.

* * *

"Congratulations for the wonderful job done on the report on non-wovens. We think it is the most comprehensive to date." (Parke L. Schaffer, Proctor & Schwartz Inc., Philadelphia, Pa.)

* * *

"Your non-woven article is certainly an excellent one and it represents an outstanding contribution to the knowledge about such products." (Frank A. McCord, Market Research Section, Utilization Research Division, National Cotton Council, Memphis, Tenn.)

* * *

"I have had a number of requests for copies of the special report on non-woven textiles which appeared in your October issue . . . my copy is serving a number of people." (J. B. Goldberg, chemical engineer, New York City)

* * *

"It certainly is an interesting report, and the most comprehensive on this subject that I have ever seen." (A. R. Robbins, manager, New York Laboratories, Stein, Hall & Co. Inc.)

* * *

"This is in reference to your special report on non-woven textiles . . . We find this material extremely interesting and informative . . . We should like to receive ten more copies." (Stephen I. Rudo, Werner Textile Consultants, New York City)

* * *

"Your recent special report on non-wovens was excellent. Would it be possible for us to have 50 reprints?" (Chicopee Mfg. Co., Milltown, N. J.)

* * *

"We read with interest your special report on non-woven textiles in your October issue. It is an extremely well written article." (Edward G. Hochberg, Lantuck Department, Wellington Sears Co. Inc., New York City)

* * *

"If reprints of your article *A Special Report on Current Activities in the Field of Non-Woven Textiles* are available, would you kindly send 30 copies to the attention of the writer . . . " (A. F. Barney, Textile Division, The Warner & Swasey Co., Cleveland, Ohio)

* * *

"I'm a student at Carnegie Institute of Technology, and at the present time I'm in the midst of a research paper on non-woven fabrics and throw-away articles. I was told by Mr. Alb of Callaway Mills that there was a very fine article in the October 1957 issue of Textile Bulletin. Would you please send me that issue or a copy of the article." (Suzette Grove, Pittsburgh, Pa.)

* * *

"Would you be kind enough to forward us two copies of the report on non-woven textiles which appeared in your October 1957 issue . ." (Canadian Industries Ltd., Kingston, Ont.)

* * *

"We should appreciate having a reprint of your article entitled *A Special Report on Current Activities in the Field of Non-Woven Textiles.*" (R. P. Moffett, textile research laboratory, The Du Pont Co., Wilmington, Del.)

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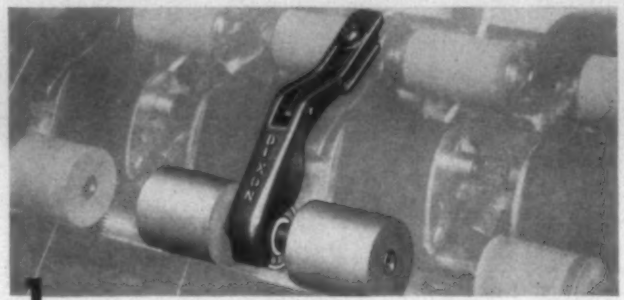

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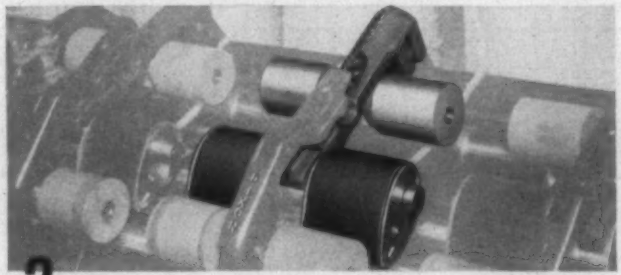

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textile bulletin

VOL. 83 DECEMBER 1957 NO 12

S.T.A. NOTES

Cotton Ginning And Cleaning

Their Relationship To Yarn Quality

By A. P. ALDRICH JR., President, Aldrich Machine Works, Greenwood, S. C.

In this paper Mr. Aldrich points out that cotton ain't what it used to be. The quality just isn't there. He gives a number of reasons for this, and you'll be interested in them if you're getting poor quality yarn out of what looks like good cotton.

THE subject I am to discuss is not one of just casual interest to cotton-yarn spinners. It is one of great importance. I suppose you know that the United States Government is bribing foreign spinners to buy our cotton by paying them about six cents a pound to take it. What is going to happen to cotton? You have all noticed, of course, that cotton is not what is used to be. It is often immature, it is not uniform, it does not always spin as well, and it does not dye as well. If you make fabrics that are piece-dyed you have probably had a great many complaints about uneven dyeing. Now a new scourge, seed-coating fragments, has broken out in the cotton industry.

Cotton is in national politics and probably is in politics in this state. The Department of Agriculture was not organized to look after the interests of manufacturers. It was designed to protect the interests of farmers. It is not interested in the welfare of spinners, flour mills, automobile manufacturers or brewers. It is primarily interested in seeing that the farmer get the highest price for the cotton he raises, even by applying a ficticious grade to it and it is dipping into the taxpayer's pocket to pay for it.

Mechanized Economy

What I am interested in is to show you why this has happened. We live in a machine age, in a highly mechanized economy. Cotton has had to be mechanized. The old method of gathering cotton by hand gave a very nice, clean staple. It was ginned on a very simple gin, which did nothing but separate the lint from the seed. With the introduction of mechanization into agriculture it became necessary to develop a cotton-picking machine; there was simply not enough labor left to harvest cotton by hand.

Several varieties of cotton pickers have been developed. There is the spindle picker, which draws the cotton out on a spindle and wraps it around; it will sometimes get hold of grass and roll it in. That is the reason so much grass is found in cotton.

The spindle picker will not gather immature cotton. In the old days, when cotton was picked by hand, there were several pickings. The first picking was the best; it was the whitest and had the best grade. With mechanical means you can have only one picking, because the machine destroys the plant. So all the bolls have to be picked at one time.

Another picking machine is known as the stripper. These machines gather so much trash that it is sometimes necessary to take as much as four thousand pounds to a gin to get a 500-pound bale of cotton. If you were to see a pile of that stuff on the ground you would never dream that cotton could be ginned out of it. In such a pile all you can see of any cotton is just a little bit showing here and there. The ginner has to separate the cotton from the trash but the ginner also attempts to clean the cotton after it is ginned. That is the cause of most of your troubles today—excessive handling by the ginner.

Political Implication

That is where the political implication comes in. The farmer does not care whether you can spin his cotton or not and neither does the ginner. The Commodity Credit Corporation is ready with the cash to give to the farmer as soon as the cotton is ginned. If you do not want it, that has nothing to do with the farmer. So you have lost complete control over your cotton. You have to take it and like it. Regardless of whether you wanted it or did not want it, if you could take it or reject it, formerly you would have some control over this commodity because gins that put in machinery that would damage the cotton found they could not sell their cotton. They took out the machinery that damaged the cotton. Now the farmer is the customer of the gin and the ginner has to please him.

Another difficulty is the grade assigned by the cotton

A. P. Aldrich Jr., president of Aldrich Machine Works, Greenwood, S. C., was the principal speaker at the Fall meeting of the Southern Textile Association's Eastern Carolina Division at the School of Textiles, North Carolina State College.

classer. From time immemorial cotton has been graded by visible trash, although there are other factors, of course. If this cotton can be put through a process that will grind up the trash so it is no longer visible the grade can be raised. That has been done. Low middling cotton has been taken and the trash ground up and the cotton graded as middling and that costs you a lot more. Only when the Government's cotton-classing methods are revised to deal realistically with what we get today, rather than with what our grandfathers got, can I see any relief. Of course the obvious remedy is to get the Government to stop endorsing cotton. Cotton is classed not for you today but for the loan. The higher the grade assigned, the more can be gotten for it as an export. There is no pressure that can be brought to bear on the farmer or the ginner to give you better cotton until we can stop the practice of buying it for export and classing it as of a higher grade.

High Temperature Drying

Another detrimental practice is the use of the high-temperature dryer. You can not harvest cotton with a spindle picker unless the spindle is wet. Cotton can not be ginned if it is wet or it will set the gin on fire. It is just like a choke in an opening machine. Therefore, dryers must be used in order to gin spindle-gathered cotton.

The first dryers that were put out were steam dryers. I remember that very well because I was collaborating with an engineer who was working on a dryer to put in a gin. He was very much concerned about the possibility of damaging the cotton. With steam you get the temperature desired by steam pressure and do not get a temperature that will damage the cotton. It dries slowly. So steam-drying was expensive.

The steam dryer had been on the market for only a few months when some bright boy conceived the idea of using a blowtorch. That cost only a few dollars, compared with two or three thousand dollars for a steam dryer. Using the steam dryer you could not get a temperature that would damage the cotton; with the blowtorch you can.

Suppose a man drives up to a gin with a load of very damp cotton. The ginner has the heat turned on to dry it, because he can not run it wet. So he dries that cotton and gins it. Then suppose the next load of cotton is dry and suppose some of the sorry, poorly-paid help found around the gin forget to turn off the dryer. The second load of cotton will be damaged.

Result Of Overheating

You may have seen cotton and cloth tested in the laboratory with ultraviolet light. Cloth made out of cotton that was overheated in the gin will show streaks. Cotton that has been overheated does not dye evenly. The tests show that over-drying has a tremendous effect on the dyeing properties of cotton. So, of course, has immature cotton.

The second method of gathering cotton, with a sled or stripper, gathers everything—all the good cotton, all the unopened bolls and all the frostbitten bolls, if the cotton was planted late. The gin grinds up everything. The Micronaire will tell you something about that cotton but not everything. There may be fine trash in there and immature cotton or cotton that is too coarse.

At the present time about 55 per cent of the American cotton crop is either spindle-picked or mechanically gathered in some other way. In the Western part of the U. S., where labor is scarce, the people will not gather cotton in the old-fashioned way. They pull off the whole boll. They pull everything—open bolls, unopened bolls, everything.

There are several ways in which this situation can be remedied besides by the political remedy of getting behind your representatives and persuading them to have changes brought about in the laws by which the cotton spinner will be protected. One way is to Micronaire every bale which is, of course, very expensive. This factor I just mentioned, of the intermingling of miserable stuff with good stuff, tends to confuse results. So some people have adopted the practice of studying samples under ultraviolet light. As a result of that you may reject a lot of bales and when you take it up with your cotton supplier he may take it to arbitration. The odds are against the spinner in arbitration.

Last year one of my friends who handles about 60,000 bales of cotton a year told me he had become so disgusted with what the cotton classers were doing that he broke open three bales, took samples from each, and sent them to three different well-known cotton classers. He said that from the results he got back one would never believe that the cotton was what he sent off. That is not the fault of the cotton classer. He is assaying cotton by methods which were in effect many years ago.

Excessive Blending

Not too long ago one of our customers was complaining that he could not get his cotton to dye satisfactorily. He agreed with us that an excessive amount of blending might help, so we installed one of the blending outfits we have been making for woolen mills. We put in a blending system that enabled them to blend from 1,200 bales of cotton, so that any piece of cotton you would pick up would have some from each of those bales in it.

That would seem to be one way of getting at it. If you can not have what you want, at least make what you have completely uniform. That excess blending will obviate trouble in dyeing. It may not dye what you want it to dye but at least it will dye uniformly. Outside of buying the cotton you want through Micronaire testing and ultraviolet-light testing and buying from reputable cotton classers, I do not see any alternative except doing more blending.

Today the mills are finding it necessary to get a bigger and bigger laydown. Of course, it is fantastic, but these people I mentioned started out with the idea of blending from 5,000 bales but they did not have the warehouse space. It is going to be very interesting to see what will happen.

Questions

Question: Would it be out of line to ask you what mill is running the 1,200 bales?

Mr. Aldrich: I guess not. It is Textiles-Incorporated. I do not know whether they have gotten far enough along with it that they will want to put out their results. These particular installations were produced for woolen mills, especially for carpet mills. There you have to have complete uniformity.

Mr. A: What has been done to eliminate the tar and asphalt in the cotton?

Mr. Aldrich: Well, it was a good long time before anybody had any idea where that tar came from. Some people thought it was something an aphid produced and that it was cooked in the gin and became dry. Some people thought that since the cotton is all taken to the gin in trucks now, over paved roads, there was tar thrown up on it. Other people thought it was due to the gin's having an oil burner, instead of a gas burner. Others thought it was due to having high temperature in the warehouse. Ginners having galvanized roofs on their buildings often paint them with tar, because the Government requires the ginners to protect the cotton while it is being ginned. It has been thought that tar drops down from the roof on the cotton causing spots. Nobody knows the exact cause of these tar spots. It used to be a very serious problem six or eight years ago. Sometimes mills had to close down their pickers every two hours and clean them out. The tar would mash down on the calender roll and create quite a big spot.

Question: Do you think it will ever be possible to grow colored cotton?

Mr. Aldrich: That is a question of genetics that I am not qualified to discuss. I think it will be possible but I do not think it will ever be practicable. There will be too much classification, too much argument and too much discussion. That does bring up an interesting matter. Some of our people dye their cotton in the blending room. It might be possible, with colored cotton, to make shades by blending. I doubt whether it would be practical because dyeing is not an expensive operation. Then, too, the farmers might grow blue cotton this year and nobody would want blue cotton.

A Member: What do you think is the cause of honey dew on cotton?

Mr. Aldrich: Honey dew is caused by a deposit like flyspects on a window glass. When you mention honey dew this pops into my mind. The percentage of immature fiber in cotton has tremendously increased in the last 15 or 20 years and that is due to poisoning. When the boll weevil was the only pest, one poison was used. Now there are other pests, like the pink boll weevil, the army worm, and so forth. Each pest requires its own type of poison. The farmers get a compound poison, and when that is put out it kills practically everything. It kills honeybees and bumblebees and butterflies—all these benevolent insects pollenize the cotton plant. Some farmers in the West have taken to feeding bees in order to get their cotton plants pollenized.

What is known as a lint cleaner in the gin is nothing but a beater. The farmers running their cotton through the gin will give the ginner about five dollars a bale for putting it through that. Some ginners are putting them in in tandem, and some adventurous souls have even put in three. They produce a beautiful cotton. Of course you could not make yarn out of it, but it will make the cotton classer drool. The cotton classer goes by appearances.

Chairman Kirkman: You touched on what can be done and the largest thing I noticed that we have to do ourselves is to live with this. It there any way in which to put pressure on the ginners and the farmers? The Government, of course, is responsible. You folks that sell ginning equipment are going to sell what people buy. Is there any way in which we can put on pressure?

Mr. Aldrich: No, sir. It may seem strange, but we machinery manufacturers have fought this thing. This year we had to capitulate since it was either that or go out of business. We have made about 700 of them. The Super-Jet thing did a wonderful job of cleaning, but it did not leave the cotton the way the cotton classer wanted it to look. The cotton classer would simply reject the cotton. Now a comb has been added. It does not improve it any but makes it look better. This is eventually going to ruin the American cotton industry.

Notes From The S.T.A.

Characteristics of New Crop Cotton

By W. H. GRAY

Cotton Fiber and Spinning Research Laboratory
U. S. Department of Agriculture, Clemson, S. C.

FIBER and spinning tests have been made on the principal varieties of cotton grown commercially by selected cotton-improvement groups beginning with the 1946 crop. These results have been reported for each crop as promptly as possible upon completion of the tests. Supplemental reports are issued as the harvesting season progresses in areas throughout the cotton belt, which insofar as is practicable, includes results for early, midseason and late-harvested cotton. Test results are published at intervals of about three weeks during the early part of the harvesting season and at more frequent intervals when the harvesting becomes more general.

During the current season, test results will be published

IRREGULAR PAGINATION

This report, which compares the early and late season 1957 crop of cotton with the early season 1956 crop, contains information on the various characteristics of cotton fiber which are increasing greatly in their apparent importance. The tests which are described in both tabular and graphic form include fibrograph, Micronaire, fiber maturity, Pressley index and break factor.

for approximately 130 market areas, each of which will produce 7,500 bales or more of a specified variety of cotton. Cotton representing the bulk of this year's crop that was bred to produce staple lengths of $1\frac{1}{32}$ to $1\frac{3}{32}$-inch will be discussed. Yarn numbers of 22s and 50s were produced with a card production rate of 9½ pounds per hour.

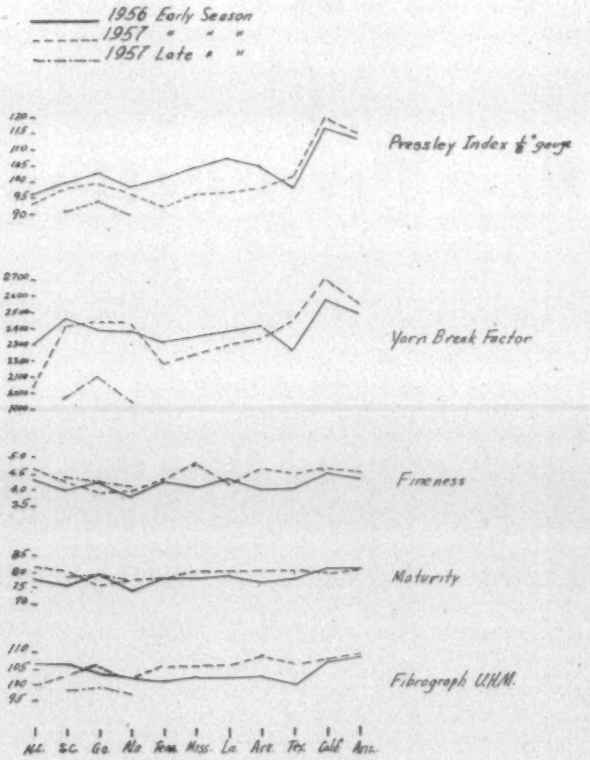
The graph shown here describes the yarn and fiber properties for the 1956 early season and the 1957 early and late season for the Pressley index using ⅛-inch gauge, yarn break factor, fineness, maturity and fiibrograph upper half mean for: North Carolina, South Carolina, Georgia, Alabama, Tennessee, Mississippi, Louisiana, Arkansas; Texas, California and Arizona.

The Pressley strengths for the 1957 crop were weaker than for the 1956 for every state except Texas, California and Arizona.

The yarn break factors followed the same trend except for South Carolina and Georgia, where they were slightly higher. California gave the highest breaking strength, followed by Arizona. North Carolina gave the lowest break factor, which might have been influenced some by the shortest fibrograph upper half mean.

The fiber fineness is coarser for 1957 for all states except Georgia and Louisiana. The fineness for Georgia and Alabama fell in our fine range, which is below four micrograms per inch. The fiber maturity by Causticaire method was less mature for the 1957 crop than 1956 for only Georgia and California. The fibrograph upper half mean was shorter for the 1957 crop for only two states, namely, North Carolina and South Carolina.

W. H. Gray of the Clemson Cotton Fiber and Spinning Research Laboratory of the U. S. Department of Agriculture brought S.T.A. members up to date on "The Characteristics of New Crop Cotton" at the Fall meeting of the association's South Carolina Division November 9 at Clemson College.



The late season cotton picked after the rains in the Southeastern states showed a significant drop in Pressley index and yarn skein strength. The fibrograph upper half mean averaged significantly shorter also.

	N. C.	S. C.	Ga.	Ala.
Fibrograph				
Early season	.98 to 1.02	.98 to 1.08	.98 to 1.09	1.00 to 1.06
Late season, after rains		.91 to 1.04	.90 to 1.06	.94 to .99
Micronaire				
Early season	4.4 to 4.8	4.0 to 4.6	3.4 to 4.4	3.6 to 4.2
Late season, after rains		3.9 to 4.6	4.0 to 4.6	3.8 to 4.4
Maturity				
Early season	80 to 82	77 to 82	72 to 80	74 to 79
Late season, after rains		74 to 80	77 to 79	74 to 80
Pressley—⅛"				
Early season	87 to 103	96 to 102	95 to 105	94 to 105
Late season, after rains		86 to 97	88 to 100	87 to 97
Break factor				
Early season	1856 to 2298	2254 to 2555	2193 to 2580	2276 to 2533
Late season, after rains		1751 to 2193	1867 to 2101	1690 to 2171

Piedmont A.A.T.C.C. To Meet At Durham

The Piedmont Section of the American Association of Textile Chemists & Colorists will hold its quarterly meeting in Durham, N. C., on April 11-13, 1958. Warren Rixon, Union Carbide & Chemical Co., Charlotte, N. C., who is sectional chairman, will preside. Headquarters for the meeting will be the Washington Duke Hotel. The Piedmont Section includes both Carolinas and Virginia.

Pickett Named Head Of Overseers Association

George S. Pickett, Wyandotte Worsted Co., Conestee, S. C., was re-elected president of the Southern Textile Overseers Association at its first anniversary meeting early this month in Greenville, S. C. Other officers re-elected are Charles Grubb, Wyandotte Worsted Co., vice-president; William Wyschockzka, Airedale Worsted Co., Stony Point, N. C., treasurer; Lyman E. Frost, Belton Bagging Co., Belton, S. C., secretary; and Joseph Bowring, Macon Textiles Division of Bachman Uxbridge Division of Amerace Co., Macon, Ga., assistant secretary.

A Special Study

YARN TENSION

And Its Problems

PART TWO

By JAMES R. WRIGHT, Product Engineer
Uster Corp., Charlotte, N. C.

As mills are aware, it is very important to maintain a low, even tension on all roving creels. The head of the Uster Custom Tension Recordograph for measuring tension at the creel can be held by hand or used by the movable boom arms. Mill men know that high and low or uneven tensions will cause stretch in roving which, since stretch is an uncontrolled draft, will give uneven yarn. The result of this stretch is more ends down in spinning.

A mill may be considering the possible purchase of one of the many types of bobbin holders now on the market. Through the use of the Recordograph, each mill will be able to determine which type of holder is best suited for its individual plants, as well as the proper adjustment of the height of the guide rod. It has been stated that the most nearly correct position for the creel (or guide rod) is one inch below the center of a full bobbin in most cases. Adjustment should be made to determine the best distance between the bobbin and guide rod and to reduce the amount of tension variation from top to the bottom of the bobbin.

Spinning Creel Tension

Factors that influence spinning creel tension are: (1) the type of creel; (2) the type of bobbin holder hanger, such as manufacture, setting and brake, if applied, and the type of bearing; (3) bobbin holder for skewer creel; (4) the size of empty bobbin; (5) the size of full roving package; (6) lay of the roving; (7) hank roving and twist per inch; and (8) other information. It is possible to reduce the high tension pattern and reduce the amount of twist in roving creel. This, of course, will increase the amount of production on the roving frames. Chart No. 1 shows high and low tension patterns in roving which will cause more ends down in spinning. Chart No. 2 shows an ideal roving creel. This, of course, will improve the quality of the yarn and yield less ends down.

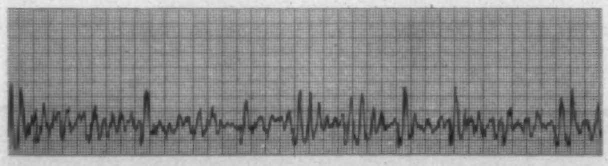


Chart No. 1—High and low tension patterns in roving which will cause ends down in spinning.

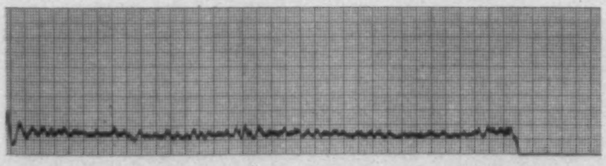


Chart No. 2—This chart shows an ideal roving creel tension pattern. This will improve quality of the yarn and the spinning will run with fewer ends down.

Spinning And Twisting

When recording tension on single ends in spinning and twisting the head may be held by hand or by the movable boom arms. For long term testing in these operations, it is more desirable to mount the head on the boom but for short spot checking, the head may be held by hand.

When measuring tension at spinning or twisting, the yarn should run over the pulley. If the yarn is extremely light or low in twist, use only one pulley, since only the width or pattern of the tension is the important factor and not how high or how low it appears on the chart. In chart No. 3 the narrow pattern shows a good traveler and ring. In chart No. 4 note the wide variation of tension pattern. A bad traveler or ring will give this type of chart.

Twister tension measurement can be made with both pulleys. Chart No. 5 represents three spindles. A good spindle, a very good spindle and a spindle with a bad traveler or ring are shown from left to right in this chart.

Influencing Factors

Factors that influence tension on spinning and twister frames include: (1) manufacture of frame and model; (2) specifications of spindle; (3) specifications of traveler; (4) specifications of ring; (5) spindle r.p.m.; (6) type of spindle drive; (7) type of bobbin; (8) specification of traverse length and builder motions; (9) thread board traversing limits; (10) ring or traveler changing cycle; (11) front roll r.p.m.; and (12) other information. Through Recordograph measurement of tension during the

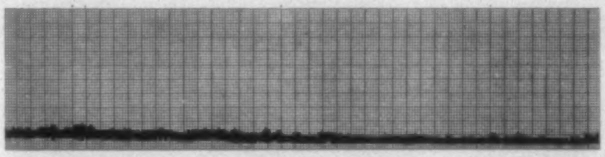


Chart No. 3—The narrow tension pattern shown in this chart indicates a good traveler and ring.

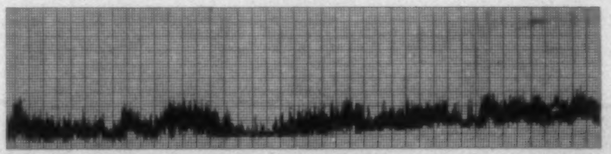


Chart No. 4—The wide tension pattern shown in this chart could be caused by a worn traveler or ring.

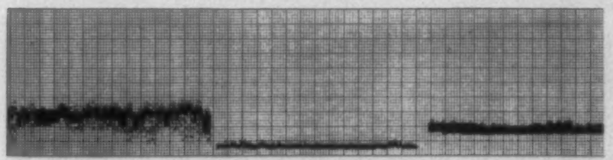


Chart No. 5—This chart shows *(from left to right)*: (1) a good spindle; (2) a very good spindle; and (3) a spindle with either a bad traveler or ring.

spinning and twisting operations, the chart records accumulated over a period of time contribute vital information in the evaluation and determination of the life of the ring and traveler. This is not only important to the spinning process itself but is even more vital to the subsequent processes. The spinning tension should remain in close range with the given counts which are being spun. For instance, one spinning bobbin with an excess amount of tension can cause a wound package to have scraped, broken fibers resulting in a fuzzy appearance.

As an example, the selection of the proper travelers for each type yarn and the establishment of optimum traveler changing cycle is one of the most important tension controls on spinning. Factors that affect spinning tension in this area of processing are the travelers, rings, traverse of the rail, thread guide and spindle vibration and alignment. Some of these variations are basic to machine designers but in most cases the factors are within the control of the mill.

Traveler Selection

Mill men are aware of the lack of definite and dependable rules for traveler selection. In the spinning of any yarn, a certain relatively fixed weight of traveler is required but the distribution of the metal equivalent (the circle) of that weight is open to choice. While any of several circles may serve the purpose for any yarn number only one can be just exactly right. The method of determining, or at least coming close to determining the proper circle is not nearly so well understood as it should be, even among mill men of many years' experience.

For varied reasons, some men tend to use too large a circle for the flange. Others, but less frequently, choose too small a circle. The tendency to use an overly large circle is frequently found among mill men who have been accustomed to running heavier yarns but have changed to running a lighter number. In some cases, the use of the large circle is the result of the decision of an employee who has found it easier to put on the rings.

When the circle chosen is larger than it should be, the traveler will run off balance. Excessive friction will set up as a result and the percentage of ends down increases beyond normal. Most important from the over-all cost standpoint is the backtracking, which grooves the rings, reduces efficiency and makes ring replacement necessary in greater frequencies than could be reasonably expected.

Excessive ring wear can be avoided by the use of the Uster Custom Tension Recordograph in following up a test to see which traveler style should be used. For instance, the traveler circle should be no larger than necessary to fit the ring flange and provide clearance for the yarn. With the use of the Recordograph it is now possible to assure a more correct method for selection of the proper traveler.

This instrument will also assist in the establishment of clearer standards to follow in the purchase of travelers capable of giving longer life to the ring. With less lubrication, the mechanical part will have longer life. Close adherence to the range recommended by the Recordograph soon shows up in improved efficiency, better yarn quality and a considerable reduction in the rate of ring wear.

For the detailed recording of the condition of a spindle in quilling or for fast and effective trouble-shooting or spot checking, the head of the Tension Recordograph may be held in the hand. Trouble-shooting for variation in tension and quilling results in determining many important factors such as: (1) number of yards per bobbin; (2) properly maintaining the correct breaking strength and elongation; (3) proper control of the sloughing of the yarn in the shuttle; and (4) properly controlling filling bands and broken picks.

Information which is important to recording tension on quillers includes (A) manufacture and model of quiller; (B) number of winds on quill; (C) maximum and minimum length of stroke; (D) spindle speed; (E) type of quill—length, diameter at tip, diameter at base and butt diameter; (F) type and range of disc tension devices; (G) stop-motion and length of stop-motion used; (H) amount of production per hour in bobbins and pounds; and (I) type of guide. Information collected during tension studies should be kept by the mill in permanent record form. The most important considerations are the type of supply package and its position.

The important place to measure the tension is just before the entrance into the tension device. This may mean a slight deviation from the normal path of the yarn but it can be done in such a manner that it is still very indicative of the conditions at the quiller. Heavy novelty yarns may cause a very wide variation in tension. A variation of this type may be controlled merely by correctly placing a balloon breaker. High tension may occur from a misaligned bobbin when the yarn is pulling from the low side of the package. This condition is corrected by adjusting the guide or package. This is especially true in synthetic yarns. It is important to position the package so that the variations in tension are reduced to a minimum. The result, if not corrected, may show up in a wide variation of tension and occur in cloth as filling bands or broken picks. This is true since possibly the elongation has been removed from the yarn.

Elongation Control

Elongation control is especially important in synthetic

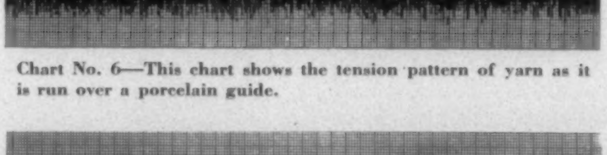


Chart No. 6—This chart shows the tension pattern of yarn as it is run over a porcelain guide.

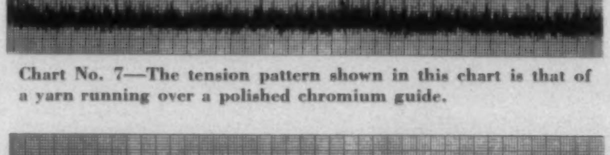


Chart No. 7—The tension pattern shown in this chart is that of a yarn running over a polished chromium guide.

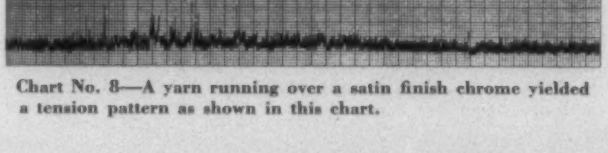


Chart No. 8—A yarn running over a satin finish chrome yielded a tension pattern as shown in this chart.

yarns because it is extremely critical in determining the weaving characteristics of the yarn. At present, there are several different types of thread guides such as chromium plated, satin finish, glass and Alsimag. Some of these guides will help improve synthetic yarn production. However, the production improvement may prove to be a case of false economy if these guides do not help to control tension problems. Tension patterns are shown for thread guides made of porcelain, polished chromium and satin finish chrome in Charts 6, 7 and 8. Patterns of this type are influenced by any number of factors including state of wear of the guide, type of yarn, etc.

Replace drawing cans with oil drums?

Notes From The S.T.A.

New Machinery Developments

The following is a report of a panel discussion held at the Fall meeting of the Eastern Carolina Division of the Southern Textile Association. Led by Jesse A. Boyce of Erwin Mills, Durham, N. C., the panel was composed of J. P. Hughes, Cone Mills Corp., Hillsboro, N. C.; Lewis Burgess, Crompton & Knowles Corp., Charlotte; J. P. Martin, Pilot Mills Co., Raleigh; M. Ray Harden, Saco-Lowell Shops, Greensboro; J. R. Gilbert, Hart Cotton Mills, Tarboro, N. C.; R. I. Dalton Jr., Whitin Machine Works, Charlotte; and Gilbert C. Mays, Erwin Mills, Durham.

Chairman: During the last few years there has been a great change in textile machinery. We are expected to take today's comparatively poor cotton and make a quality piece of goods at the lowest possible labor cost. In order to do this we need machinery that will do a better job of cleaning, that will run faster, and that will still give the quality and evenness that we need. I can think of many improvements that can be made in opening, better cleaning, high speed drawing, larger packages—many, many things. I am sure you gentlemen have some questions that you would like to bring to this panel.

A Member: Has any work been done on the modern dobby chain?

Mr. Burgess: There has been a paper-indicated tape developed and it has proven practical. Instead of pegs and a bar and a dobby chain you use punched paper comparable to or similar to a jacquard card, or perhaps more like the roll of punched paper used in the old player piano. It is available in certain gauges and capacities and is very effective. People find it hard to justify it on dobbies installed currently in the mills. There is an attachment available which can be bolted onto your present steel, No. 7 type dobby which will eliminate the dobby chain and enable you to use the paper. You will have to provide a punching machine to punch your pattern but that would take the place of building your dobby chain so that is no real disadvantage.

A Member: I should like to have someone discuss the roving-frame stop motion.

Mr. Dalton: Our company does not make them but on almost all roving frames sold today, mills are applying some form of stop motion. As you know, one is the Adamstop and the other the Pneumastop. I would say that these stop motions have enabled the mills to increase their output considerably. I know of a mill that has one of the most outstanding job loads I have heard of anywhere after putting on the Adamstop motion. For example, this particular mill is operating 22 120-spindle 10x5 Interdraft roving frames on 1.60 to 2.10 hank roving with three operators. I do not know whether it has been publicly announced, but I am sure a lot of people have seen the improvement put on the Pneumastop application. The only difference is that if an end breaks in the creel the machine formerly continued to run, causing a lot of fly; but now there is an electronic device whereby if an end breaks in the creel the frame will knock off.

Mr. Kirkman: I wonder if any of the mill men on the panel have any of these stop motions now.

Chairman: We have at Erwin Mills. We had a rough time until we got it. In case of an end down or sliver broken back we had trouble.

Mr. Hughes: We have one frame with Adamstop, and it is very satisfactory.

Chairman: Your Adamstop will stop off the frame when you have a lap-up on the top roll?

Mr. Hughes: Yes, sir.

New Work Methods

Mr. Aldrich: Is there need for the development of new work methods on new machinery?

Mr. Harden: To answer that question generally, yes. As the new developments in machinery come along new work methods have to be developed. I think I might illustrate that in one specific case where they have a large-package roving frame—12x7—with a net content on the bobbin up to 80 ounces, or five pounds. I use that as an illustration, to answer the question. To begin with new methods, start with the roving frame where a multiple truck is used. The roving truck is pushed down to doff this large-package roving frame. Usually there are one or two cells in a spring-bottom box. The man on the roving frame will push it out of his alley. Then it is pushed to the spinning alley and will break up into four boxes. They usually have a girl who creels the roving into the spinning frame, leaving the spinner to do nothing but spin. This 12x7 package will run in the spinning frame around 170 hours until it has to be replaced. Therefore a roving girl is more to be desired for this work than the spinner, because she has so much larger territory to cover and so few bobbins to put in.

Chairman: What do you think are the limits to which we can go on these large packages?

Mr. Harden: I think one of the limits might be the weight the woman spinner can lift into this position.

Mr. B: Can anybody block-creel in that?

Mr. Harden: Yes, and I know of one instance in which they let the roving run out every time instead of splicing it. That is desirable because you do not have thick and thin places.

Mr. B: Let me ask another question. What is the lightest roving on the 12x7 package?

Mr. Harden: We have run a little bit of it as light as 1.80, but that is not very practical. I think the highest should be about 1.35 or 1.40 hank roving.

Question: Do you run a higher twist multiple?

Mr. Harden: Yes, that is necessary.

Question: How high?

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Mr. Harden: I think from 1.60 to 1.30 is all right.

Mr. Dalton: Our research department has invested in a very expensive piece of equipment called a strain gauge, which is in fairly common use by the aircraft industry. For instance, if you have a big piece of steel, say as large as this table, and put that gauge on it, it would indicate how much torsion is in that steel. We adapted this strain gauge for use in our testing department in testing the various tensions on the roving frame when running from the beginning of a doff through to a full bobbin. As a result of this we have developed a new cone which carefully controls the tension from the beginning of a doff until the end of a doff.

Can Size Limits

Question: What is the limit on can size? What are the limitations on the big can?

Mr. Harden: For roving and sliver cans?

Chairman: I heard last night that someone was experimenting with running an oil drum.

Mr. Harden: I was just about to say that some mills are experimenting with oil drums, so we do not know where we are going. Some mills are running 18x42-inch cans on the cards and 16x42-inch cans on drawing. On carded drawing sliver these cans will run about 33 to 34 pounds of stock and on carded combed sliver the cans hold 35 to 38 pounds. As to the limitations, I do not know. Maybe it will depend on the handling of that big package.

Question: What about the methods of coiling in the can?

Mr. Harden: Well, we use one method and our friends over here use a little different method. I guess we both think we do a good job.

Mr. Dalton: I happen to be prepared for that question. I brought a lot of information taken out of one of our catalogs showing the amount of stock that can be put in various sizes of cans, and I shall be glad to pass these sheets around. Incidentally, I noticed that Mr. Harden was using one of my sheets when he was giving some figures about weights. In answer to the question about coiling in the can, we have done a lot of study on that. You may think that by building a coil with a small hole in the center you might get more stock in the can but we found that that builds up a cone effect in the center. We found that with a larger hole in the center we can get more stock in the can.

High Speed Drawing

A Member: I should like to get some information about high-speed drawing.

Mr. Harden: With apologies to Bob Dalton, he did not notice that I have my own weight figures on his sheet of paper. Our Versa-matic high-speed drawing employs the original four-over-five drafting system, which gives you four or five draftings, depending on what type you are running. For instance, on combed stock we use three-over-four but for carded we use four-over-five. The points of drafting are controlled at all three places in the case of the four-over-five and at two places in the case of the three-over-four, so that there is a postive draft from the back to the second from the back roll in the three-over-four. Then there is a large top roll, which has a spacer button on it. We have a control there which controls the stock positively as it goes into the front roll. We have the open type of extended creels on the back which separate the slivers as they slide into the drawing frame and have five stop motions. There are signal lights on the top of the frame to indicate the point at which an end is down. If we have a lap-up at high speed on any of the rolls there is an automatic stop. In other words, it is pretty well controlled. Inside the motor there is an internal brake. If you do not have that, the frame simply runs away from you because it runs so smoothly. But this brake gives the operator a chance to piece up. The frame has top and bottom self-cleaning clearers which are operated mechanically. The collection from the clearers is collected up on the top, therefore there is no picking. The operator simply goes by and takes the collection off the top. We have been running that drawing 250 to 260 feet per minute on combed work and over 300 feet per minute on carded work. I understand now, however, some mills have been running combed work over 300 feet per minute, having installed something to hold the fibers that used to fly off on high speed.

Mr. Dalton: I am glad to make a few comments on high-speed drawing. It is amazing what the mills are doing with it now. For example, some mills are running 40 deliveries of our high-speed drawing at 300 feet per minute, which means that they are replacing about 120 deliveries of old-type drawing which operated at 100 feet per minute. Of course, with old drawing it would have been practically impossible to run 120 deliveries per operator. Most mills with high-speed drawing have found it is helpful to use large cans in the creels, because the old 12x26-inch cans creel so rapidly. In connection with our new frames we have adopted a Pneumafil clearer. In our opinion there has never been a perfect mechanical clearer, so we adopted the Pneumafil type of clearer, which is especially important with high-speed drawing. With the higher speeds and the consequent increase of fly it is important to have a vacuum-type clearer. We also have a can table that oscillates slowly instead of rapidly. In addition to that we have a two-inch diameter front roll. You can appreciate that with a drawing frame running 300 feet per minute there is danger of lap-ups with excessive high front roll speeds. For this reason we have adopted the two-inch front roll, which operates at a lower r.p.m. at these higher surface speeds. The two-inch front roll is more of a carrier roll, rather than being connected directly with the drafting system. I will say, as a matter of general interest, that these high-speed drawing frames are accepted, generally. With them the mill is able to get a great deal more evenness than on the old type of drawing frame. I think Mr. Harden's company, and our company, too, has equipment that will help you.

Umbrella Creel

Chairman: I think we should all like to have some comments from the mill men on the umbrella creel.

Mr. Hughes: I think the umbrella type of creel for old spinning frames that are in place is a necessity for the 12x7 and perhaps the 12x6.5 roving package. You get the creel so high if you double-deck it that the ordinary spinner cannot reach it.

Mr. C: We have these large cans on the card, and when an end comes down we cannot put it up.

Chairman: You cannot pull the coiler down?

Mr. C: No, we cannot. You see if you put all your cards on that you are going to have a problem.

Chairman: Have any of you tried any of the new spinning rings? You know there has been a lot of argument as to the correct way to break in new spinning rings and now they say you do not have to break them in.

Mr. Mays: We have two frames running on the Foard ring. It is just a plain ordinary ring with a black coating on it. We started off with a speed of better than 6,000 feet a minute. The first time we changed the traveler was about two hours and then we changed again after 20 hours. We had some burning. We did not change travelers again for about eight days. Now it has been running two weeks and is still doing fine. How far we can go on this particular ring I do not know but it does look good. I also have some of the Draper rings and they are doing a nice job. I have been changing travelers on those about once a week, but I am going to try to increase the life on that.

Chairman: How do you feel about this Foard ring being softer than the traveler running on it? It is not as hard as the traveler itself but it can run at tremendous speed.

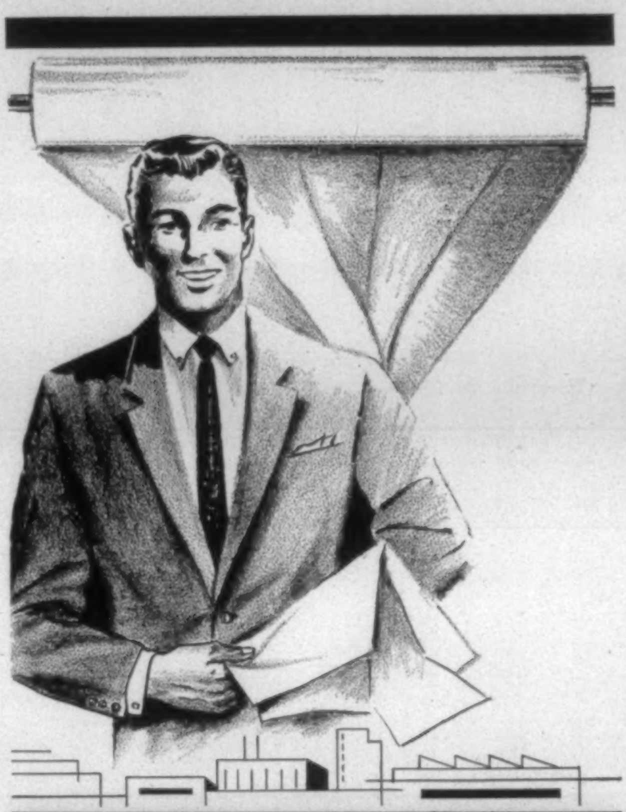
Question: What is going to be the life of the traveler?

Chairman: I understand there is a sample running that has run 400 hours without changing travelers.

Mr. Kirkman: It seems to some of us who have to live with the old machinery that we need some type of conversion of drafting and spinning. I should like to hear some comments on this matter of roll suspension.

Chairman: Have any of you had changes in your ball-bearing drafting system that you would like to comment on? At Erwin we have new frames that have it. We have a sample running on a small change-over. You can run the same weight and should have better control of your fibers.

Mr. Harden: Each manufacturer has a different name for it. We call ours Trueset. Our system can be applied to any good old system on a top-drive frame. However, it was originally designed for new frames. The principle is spring weight from the top and suspension from the front top and back top roll, with clamps that hold it so the weight is actually anchored on what is called a cap bar. To put the weight on you press down on a lever which puts all the weight on the rolls correctly. When you get ready to release it you press again and it opens up the drafting system completely. As a matter



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of interest, Saco-Lowell has made one advance in that top-roll cots have been standardized at 1¾ inches. Another application is standardized at 1¾ to two inches. We certainly think it is to the mill man's advantage to standardize on those things.

Electronics For Looms

Chairman: Time is running out on us, but I should like to have some comment on electronics for looms.

Mr. Burgess: The textile industry has a way of dividing into zones. There are no heavy duck mills in North Carolina; they are all down in Georgia. The towel mills are in North Carolina. What I am getting to is that in this section multiple-shuttle looms are in the minority and perhaps much of what I say will be very dry to most of you. However, a considerable amount of work is being done on electronics for looms. Instead of a filling feeler we have an electric eye, which will operate mechanically. Quite a good deal has been done already with the electric eye on our looms to eliminate protector motions, etc. The electric eye is installed at a certain point in the lay, and unless the shuttle passes that point at a certain time the loom is knocked off.

Shuttleless Looms

Question: What about shuttleless looms?

Mr. Burgess: Draper announced that one will be available soon. You might be interested in the use of multiple colors in filling. That has not been too successful. What has been accomplished is what you can get with a single-shuttle loom. It has been possible to pick up from one color after another; but there, again, you do not have any blending of colors but end up with a single pastel shade.

Opening, Picking, Carding & Spinning

Alabama Mill Men Discuss Card Room Practices And Techniques

The Alabama Textile Operating Executives met October 11 at Alabama Polytechnic Institute, Auburn, and discussed various mill problems. This report of the carding discussion contains questions and answers concerning: (1) overhauling crews; (2) grinding cycles and pounds between grindings; (3) reworking flexible bends; (4) increasing weight on roving bobbins; (5) roving tension controls; and (6) pneumatic picker lap controls.

Question No. 1 (a)—Please state experience in using card overhauling crews. Be specific in just what overhaulers do when overhauling a card.

Mill A: We have one card clother and a helper. These men install cylinder and doffer fillet, card flats and chains when needed. Cylinder bearings and doffer bearings are checked prior to installing fillet and if worn they are replaced. If necessary the cylinder and doffer is surface ground. All other bearings and worn parts are replaced with new ones. All screens and plates are inspected, cleaned and polished. Damaged screens and plates are replaced with new ones. After installing clothing, grinding rolls are placed on the card. Prior to returning the card to production after grinding it is set up all over.

Mill B: We have a four-man overhauling crew on the first shift. This crew does all necessary clothing, patching and grinding. We have metallic clothing. We set the flats each three months and backs are set each six months. Screens are pulled once per year. When backs are set the lickerin, feed roll, plates, screens, etc., are inspected for damage and replaced if necessary. The card is thoroughly cleaned. The overhaulers also take care of any major breakdowns which may occur.

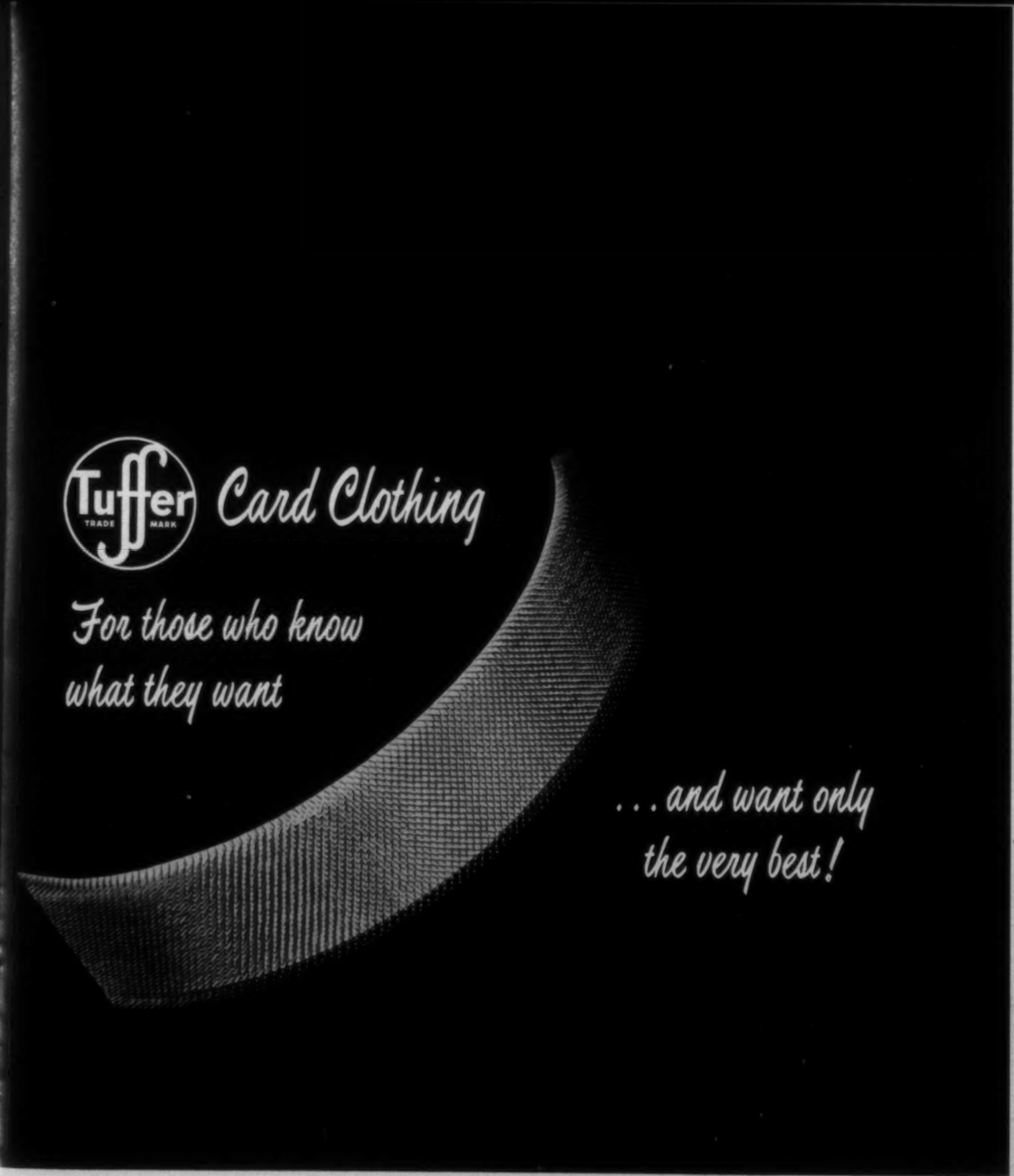
Mill C: We have a card overhauling crew but do not have a scheduled overhauling cycle. Our card overhaulers clothe cards, put on new flats, flat chains, bearings, lickerins, etc. We are interested in hearing further on preventative maintenance of cards.

Mill D: We do not have a regular overhauling crew for the cards. Our grinders check and repair or replace all worn parts at each grinding cycle. Grinders inspect the card and fill out a prepared form on each card set up. This form is kept in a permanent file. We overhaul cards thoroughly each time they are clothed. During this time we level and align the card, repair or replace all worn parts, shafts, journals, bearings and gears.

Mill E: The overhauler tears down a card that needs a doffer or cylinder or both. He replugs and surface grinds. During the time this is being done, all gears, shafts, studs, bearings, lickerin feed rolls and all worn parts are inspected and replaced if needed. When the card is put back into operation, an evenness test is made on the sliver's uniformity.

Mill F: Our card overhauling crew consists of one head overhauler and one helper. When overhauling a card, all gears and other parts are inspected for excessive wear or breakge. Replacement is made where necessary. Screens are removed and cleaned and polished every six months. At this time any other needed repairs are made. Flats and flat chains are installed as directed by supervision. The overhaulers are responsible for maintenance of continuous strippers. The cards are inspected twice a day by overhaulers and any stripper needing new needle bars or parts is removed and repaired immediately. The overhaulers also repair our ball bearing comb boxes when needed.

Mill H: At present our overhauling program is set up in conjunction with our card clothing. The card is com-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pletely stripped for application of clothing. The cylinder and doffer bearings are inspected and replaced if necessary. The clothing is then applied. All worn parts are replaced when the card is built up. We are replacing plain lickerin bearings with ball bearings. Screens and plates are inspected. The card is aligned and leveled, set-up and ground.

Mill I: Our card room overhauling program consists of: (1) clothe card—cylinder or doffer; (2) surface grind cylinder or doffer when needed; (3) align and level; (4) clean or replace bad screens and reset; (5) check cylinder, doffer and lickerin bearings, replacing bad ones; (6) install reworked flexible bends; (7) install new flats and chains and replace worn sprocket shafts; (8) clean all brushes, rebristling where needed; (9) straighten back and front plates, polishing out rough places; (10) overhaul coiler heads, replacing worn parts and gears; (11) inspect coiler and calender trumpets; (12) install reworked feed rolls; (13) replace bad lickerins; (14) replace bad cylinder and doffer shafts; (15) clean card thoroughly and reset all points; and (16) lubricate card completely before putting back into regular production.

The carding discussion was led by W. T. Curry, Cone Mills Corp., Dwight Division, Alabama City, Ala.

Mill J: We have a two-man overhauling crew for our cards. We overhaul various parts of the card in cycles: (1) clothe cylinders and doffers, put in new bushings, flat chains, flats and lickerins; (2) clean and set screens, inspect cylinder and doffer to determine if they are centered in card, and inspect doffer and cylinder bushings; (3) calender roll and coiler heads; (4) feed rolls, bearings, mote knives and shrouds; and (5) align and level cards. In addition to this program, the foreman spot checks settings on card after grinding.

Mill K: We do not have a regular overhauling crew. We use two men to clothe and overhaul cards. When these men clothe a card they overhaul every bearing, journal gear, brush, comb, comb box, screen, lickerin and flat disc. The card is also aligned and leveled, and surface ground before proceeding with clothing.

Mill L: Our card room overhaulers do all card room machinery overhauling except combers. Their main card work is: (1) doffer and cylinder bearing and journal replacement; (2) align and level cards; (3) remove and clean screens; (4) apply clothing; and (5) surface grinding.

Mill N: Our experience with card overhauling crews has been very satisfactory. During 1951 and 1952 all of our 502 cards were completely overhauled. The cards were dismantled and the overhauling consisted of: (1) cylinder and doffer surface grinding, if needed; (2) clothing replaced, if needed; (3) all gears cleaned and checked for standard teeth; (4) all shafts and bearings cleaned and replaced or repaired (metallized) where necessary; (5) all card parts cleaned, inspected; (6) all belts checked, tightened and replaced if needed; (7) aligned and levelled cards; and (8) ground, set and put into production. Since the overhauling was completed, an overhauling crew consisting of two overhaulers, two helpers and one oiler are responsible for: (1) all clothing; (2) comb box maintenance; (3) continuous stripper maintenance; (4) major repairs; (5) lubrication of all line shaft bearings; and (6) relocation of cards. Whenever clothing is replaced by the overhaulers, the card is again dismantled and completely overhauled, ground, set and put back into production. A card is filled out by the overhauler showing the date, card number, type clothing removed, cause of damaged clothing, type of new clothing, and parts that are replaced. This card is signed by one of the card room supervisors and is then turned in to the maintenance department where records are kept on clothing, etc.

Question No. 1 (b)—When card overhaulers are used, what are the duties of card grinders? Give grinding cycle, pounds between grinding, number of cards set up and ground per grinder per shift.

Mill A: Grinders set flats on first cycle—set plates, screens, lickerin, mote knives, etc., on second cycle. In addition, grinder does minor repair jobs.

Mill B: Grinder oils and repairs belting, pulls chokes and takes care of minor breakdowns.

Mill C: Grinder on first shift only. He has 45-card section and takes care of all maintenance on cards. He sets doffers and cylinders on cards which are ground.

Mill D: Grinder does grinding, setting and routine repairs.

Mill F: Grinder cleans and inspects each card that is ground and makes all necessary repairs to gearing, studs, brushes, etc.

Mill H: Grinder grinds cards and makes routine repairs, including oiling, covering grinding rolls, hand stripping and miscellaneous cleaning jobs.

Mill I: Grinder sets doffer to cylinder and flats on first grinding cycle. On the second cycle the doffer is set to the cylinder and the backs are also set. In addition, the grinder takes care of all maintenance on cards in his section.

Mill J: Grinders oil and fix cards on assigned sections.

Mill K: Grinders grind four cards per shift and flats on one card. They set backs on two cards one round and flats on two cards on the next round. Doffers are set on each card on every round. Grinders also repair all breakdowns.

Mill L: Grinders oil all slow motions on their 37-card sections. They follow a preventative maintenance program and also inspect quality of webs. Waste made by card tenders is weighed and recorded by the grinder.

Mill N: Grinders have 96-card sections. Other than grinding, he takes care of routine repair jobs, checks webs and inspects for major overhauling jobs.

	Lbs. Between Grindings	No. Set Up Per Grinder Per Shift	No. Ground Per Grinder Per Shift
Mill A	2,160	4	
Bill B	No grinding necessary since cards have metallic clothing		
Mill C	3,553	1	2
Mill D	2,880	1	
Mill E	2,880	2	2
Mill H	4,700	2	
Mill I	Warp—4,960 Filling—2,300		
Mill J	2,880	3	
Mill K	3,000	2	2
Mill L	2,180	3	3
Mill N	2,700 to 4,000, depending on fabric specifications		

Question No. 1 (c)—What method do you use in reworking flexible bends? Is there any mill that does its own grinding. If so, explain how it is done and approximate cost.

Mill B: We put on a set of reworked flexible bends with each new set of flats. We do not rework our bends.

Mill C: We rework flexible bends by taking them off the cards and sending to an outside repair shop.

Mill D: We have our flexible bends worked by an outside firm.

Mill F: We send our flexible bends to a clothing repair shop to have them ground.

Mill H: Our flexible bends are returned to the factory for grinding.

Mill J: We send our flexible bends to D. & C. Machine Co., Charlotte, N. C. The cost of grinding is $15 per set.

Mill N: Our flexible bends are ground by an outside repair firm for $15 per set.

Question No. 2 (a)—Describe any method you have found successful to increase the net weight of roving on the bobbin. Give net weight in ounces per bobbin before and after change. Give hank size, package size and whether stock is carded or combed.

Mill B: We put an extra wrap on our flyer pressers. We run carded stock on our 12x6½ roving frames. Before change on .60 H. R. the package held 52 ounces. After change the package holds 64 ounces. Before change on .50 H. R. the package held 52 ounces. After change the package holds 62 ounces.

Mill C: We are experimenting with wrapping the roving around the presser for an additional turn. We have found that the extra wrap increases our package weight from 40 to 48 ounces but intend to do further experimentation.

Mill E: We find that we are able to increase our package size by 14.8 per cent by increasing the wraps around the presser foot from two to three turns. On .60 and .72 H. R., carded, 12x6½ package, the weight was previously 50.5 ounces but with the additional wrap the weight is increased to 58.0 ounces.

Mill H: We have increased our roving package weight by changing the taper gear and increasing flyer size. Changing the taper gear on .70 H. R., carded, 12x6½ package, the weight was increased from 50 to 53 ounces. Increasing the flyer size, .70 H. R., from 12x6 to 12x6½ the weight was increased from 44 to 50 ounces.

Mill I: Other than claims for drop presser flyers, the only way of increasing roving package size is to do a masterful maintenance job, that is, align and level, clean, open builder blocks, set properly, and experiment and adjust taper, tension and lay. On a 10x5 frame we increased from an actual average of 23 ounces to an actual average of 27 ounces.

Mill M: We have not been able to find a successful method for increasing roving package weights. When we increased the weight of roving on the bobbin, we could not control the tension.

Mill N: In trying to increase the net roving weight per bobbin, we have not been too successful. Changes have been made in the taper angle, lays per inch and additional flyer tips have been used. Our net roving weights are: 10x5, .92 H. R.—28.49 ounces; 10x5, 1.50 H. R.—28.79 ounces; 12x6, .50 H. R.—48.00 ounces; and 12x6, .92 H. R.—48.00 ounces.

Question No. 2 (b) and (c)—How do you control tension throughout the doff? What is the effect on uniformity of the increased package weight?

Mill B: We try to get tension right on the frame and hold with controlled humidity. We have seen no effect on uniformity by increasing the package weight.

Mill C: In our experiments, tension was controlled in the normal manner. We had to change four teeth on the tension gear. We have seen no difference in roving uniformity.

Mill E: We make no adjustments in tension throughout the doff. We have seen no difference in uniformity.

Mill H: We have no appreciable trouble with tension and have noted no effect in the roving's uniformity.

Mill I: Tension control is affected by correct combination of tension taper and lay. We have noted that the uniformity ranges from unchanged to slightly improved.

Mill N: We have had very little difficulty in controlling tension throughout each doff. In maintaining a relative humidity of 55 per cent and in using G-38 top cones, the tension is controlled satisfactorily. We have not seen a significant difference in roving uniformity.

Question No. 3—What experience have you had with pneumatic lap controls on pickers? What type do you consider best? What increase in lap weight have you been able to achieve? How has it affected your card jobs?

Mill A: We have had Saco-Lowell pneumatic lap controls on our pickers for about ten years and they have proved very satisfactory. We increased our lap weight from 43 to 57 pounds and lap length from 47 to 63 yards. We run a 14.50 ounce per yard lap. We were able to take off one card tender with this increase in weight.

Mill C: We have installed the Saco-Lowell pneumatic rack tensions on our Whitin pickers with very little success in increasing the pounds per lap. We have increased the air pressure on the cylinders to 70 pounds but still have not been able to increase the number of yards per lap. At the present time we are experimenting with increased weight on the stack rolls. In conjunction with the pneumatic rack tensions, we have been able to increase our lap weight from 49 to 58 pounds.

Mill E: We have been using Saco-Lowell pneumatic lap controls for five years and, in addition, have added weight to calender rolls. We have increased the lap weight from 49 pounds to 59½ pounds net and increased the length of the lap from 56 yards to 58 yards. We get much better lay uniformity with this system.

Mill F: We are well satisfied with pneumatic lap controls on our pickers. We were able to increase the weight of our laps from 48 to 57 pounds net. We are not able to determine how the increased weight affected our card jobs since we made several other changes when we changed job loads.

Mill G: We equipped eight pickers with the Logan pneumatic lap control in 1951. We decreased our ounces per yard from 14.5 to 14.0 when this equipment was installed. We were still able to increase our lap weight by 6.5 pounds and the laps remained 18 inches in diameter.

Mill H: At present we are using the Saco-Lowell lap control with increased lap weight from 41 to 53 pounds. This weight increase enables the card tenders to run more cards.

Mill I: We have our pickers equipped with Saco-Lowell pneumatic lap controls. We increased our lap weight from 48 to 56 pounds and were able to increase card tenders' jobs in proportion to the decrease in lap laying time.

Mill J: We have five years experience with the Saco-Lowell pneumatic lap controls. We were able to increase our lap weight by 4.4 pounds. We increased our card tenders' work load by five per cent and established a better cleaning schedule.

Mill K: We have the original Saco-Lowell pneumatic lap control without ball bearing calender rolls. We increased our lap weight by 18 per cent. This, in conjunction with 18x42-inch card coiler heads, enabled us to increase card jobs by 33 per cent.

Mill M: We have the original Saco-Lowell pneumatic loggerhead without ball bearing calender rolls. We increased the lap weight by 11 per cent but did not change any card jobs.

Mill N: All 31 of our pickers are equipped with Saco-Lowell pneumatic lap controls. These controls are highly satisfactory. Very few repairs have been necessary and we feel that this type lap control is a great improvement over the shoe-type lap control. We were able to increase lap weights from 56 to 70 pounds or 22.8 per cent. We did not increase the cards per card tender but did increase the tender's cleaning and patrolling frequency in an effort to improve the quality of the card sliver.

In 1797 the North Carolina Legislature passed an act authorizing Christopher Taylor to raise by lottery $5,000 a year for seven years to build a mill for spinning, weaving and dyeing cotton. The method of encouraging industry didn't succeed, however, and the money was never raised.

Notes From The S.T.A.

The Effects Of Roll Runout on High Draft Nonuniformity

By CARL BRANDT, Research Consultant
Whitin Machine Works, Whitinsville, Mass.

This paper, which was delivered before the South Carolina Division of the Southern Textile Association, November 9, at Clemson College, points out that roll runout or eccentricity has been around for a long time but is more noticeable now because of high drafts. Nonuniformity of the stock between a pair of rolls which are concentric changes as the square of the draft between the rolls, and the writer says that this is the reason the mills did not complain about roll runout long ago. In addition to details concerning this source of unevenness, the article contains a report on a question and answer period which followed delivery of the paper.

When we talk of roll runout or eccentricity we are discussing nothing new. Rolls have run out for years but it is more noticeable now because of higher draft. As you begin machining to closer limits it means that costs increase. You can afford to go so far and that is it. But we all admit that any runout at all, whether it is .001, .002 or .010 inches, affects the yarn. There is some irregularity introduced into your yarn by any runout at all.

Whenever the draft is changed the unevenness in the yarn is changed by the square of that distance. If the drafting system does not control the yarn effectively the thick and thin places in the yarn will be controlled by that square.

In the old days we used to draft 8, 10 and 12. We put the yarn into the fabric and it looked pretty good. But if the draft is changed from 12 to 24, these thick and thin places will not be just twice as bad; they will be four times as bad. In other words, the thick and thin places are greatly magnified by increased drafts.

You may have two types of runout. It might occur in the bottom roll or it might be the top roll. When we speak

Carl Brandt, a research consultant with Whitin Machine Works, Whitinsville, Mass., was a featured speaker at the Fall meeting of the South Carolina Division of the S.T.A. at Clemson.

about roll runout we should also include roll eccentricity. If you have top-roll runout with a true bottom roll, the top roll robs fiber at one instance then gives it back at another. If the rolls are of different diameters you can correct your reading and make your final figures take that into account.

We tried to see what the effect of roll runout is using a Uster tester and plotting the strength of the yarn, the skein break and the single strand break. The single break paralleled the skein break to some extent but not entirely. A little irregularity can be afforded before it affects the strength of the yarn. We found the strength held up better with an increase in tension to a certain point but then it fell off rapidly. In other words, unless you improve the yarn evenness you begin to have trouble.

Critical Draft

We tried to determine at what point the trouble starts. We found that where the roll had a runout of .004 inches, the skein strength started to drop off in a hurry. We took that yarn and put it on a seriplane and found that the patterning was very noticeable. We also determined where the first visible appearance on the seriplane showed up which was, roughly, on and after the .004-inch runout. Basically, this was done on a common number, 40s. On this basis we have set up a table using a one-inch roll and a 1⅛-inch roll.

Draft (between two rolls)	1″ Roll	1⅛″ Roll
Up to 10	7	8
10 to 15	5	6
15 to 25	4	4

One of the factors that affect the result of roll runout is the diameter of the roll. As the roll becomes smaller the runout becomes relatively more effective. We find that with that relative runout you can produce yarn which does not show too much loss of strength, either single yarn or skein.

A good deal of the spinning today would be covered by a runout of .002 inches. The total draft on the spinning frame might be 40 or 50. With this amount of draft the roll runout should not be over .002 inches. If your men lift out the rolls to scour them they may easily warp to that degree. The maintenance of these rolls depends upon the mill.

Questions

Mr. C: Mr. Brandt, you said one of the places where we hurt our rolls is when we scour them?

Mr. Brandt: That is right.

Mr. C: Has any method been devised to put the rolls on a stand?

Mr. Brandt: No, you still have to depend upon individuals to lift them out and clean them and put them back. We just have to impress upon the hands that they must use care.

Mr. D: Did you say where the first visible appearance was on the seriplane?

Mr. Brandt: There were two points indicated, one where it is barely visible and one where it is plainly visible. Where we could barely see it on the board was 15.8 per cent and where it was plainly visible was 17.6 per cent.

Question: What was the point at which the breaking strength dropped off very rapidly?

Mr. Brandt: It was at 17.6 per cent.

Mr. E: I should like to know what your experience has been on runout on the gears which drive these rolls.

Mr. Brandt: That is similar to what the steel roll does. If the bottom roll runs out, if it is due to eccentricity of the roll, it gives you a variable draft. Gear runout would have the same effect. A lot of times the yarn is cut in the track. The defect is in there but it will be buried.

Mr. E: But if your gear runout comes with your roll run out, will you have much more trouble?

Mr. Brandt: Yes.

Notes From The S.T.A.

Top Roll Runout

By W. C. CUNNINGHAM, Top Roll Engineer
Saco-Lowell Shops, Easley, S. C.

THE anti-friction top roll as we design it today is a precise mechanism which in most cases has to have a minimum of careful maintenance. There are several factors considered in good design, two of the major operating factors being lint and lubrication.

Lubrication, in the past, has been one of the greater obstacles. It is important to have adequate sealing and yet retain free motion in the housing assembly. The position of this sealing in the top roll greatly relieves us of the problem of retaining lubrication and yet keeping the lint out. A seal, to be effective, has to be in position in the top roll away from the relative motion and the lint fibers. If fibers gather around a seal which is in relative motion,

This paper concerning top roll runout problems, which was delivered before the South Carolina Division of the Southern Textile Association, November 9, at Clemson College, reports that lubrication, in the past, has been one of the greater obstacles to the precise design of top rolls. Saying that there are two basic top roll designs, the cap bar-type and the suspension type, the paper describes various requirements for satisfactorily operating rolls.

eventually some of the lint will enter the bearing resulting in bearing failure.

The bearings used should have a sufficient load capacity for heavier weight and higher speed. The bearing should be one which can be in continuous operation for many years. The bearing assembly of the top roll should be one that can be easily dismounted and disassembled. The ease of disassembly should be taken into consideration because we want a unit that can be taken apart easily, frequently, and be lubricated.

The outer parts of the assembly should be super-finished to prevent catching of lint. The average lint can be easily removed at the time of roll picking.

Shaft Limitations

Of course, the limitations of shaft diameter and roll diameter which we have to contend with, because of the smaller diameter of the cot, and also the requirements of those who desire cradle cushion cots, greatly limit us in the size and capacity available. The top-roll assembly should have as few component parts as possible because in our roll shops we do not want to have too many parts to contend with when we service the roll.

The center shaft of a top roll, because of its limitations of size, must be of good quality material. The hardness must be correct in order to act as the inner race of a bearing and yet stiff enough so it will not deflect and become crooked under the greater loads with which we have to contend. The complete top roll must be capable of operating to very close tolerances of concentricity and straightness because of the accuracy to which the top rolls have to be buffed in order to produce yarn without unusual variations.

There has been a definite trend in the lubrication field of using greases as lubricants. They are perhaps more desirable than the oil types previously used. We do not have to contend with the fluid condition that we had with oil lubricants. Being non-fluid, greases are easier to seal and to keep within the bearing area. It makes for a cleaner operating roll because it almost entirely does away with seepage. Because of the stiffness of the material we are able to fill completely the lubricating areas of the bearings and the grease will stay in those bearings.

After we have a top roll built that will satisfy the capacities needed and the requirements of buffing to tolerances of less than .002-inch for indicated runout and less than .002-inch for straights, it is necessary to adhere to the proper maintenance of these rolls. Most manufacturers have published instructions which, for the best operation, should be followed. Rolls should be lubricated at some cycle, which perhaps can best be set up by the particular mill operation. Regular routine maintenance will certainly increase the life of an anti-friction top roll.

Top Roll Design

In designing top rolls we have two basic designs. One is the cap bar type, which is used more frequently on the older type of drafting elements. In most of today's more modern drafting elements some suspension type of roll is used. The older roll, of course, does not give as many problems because it has fewer moving parts and less direct contact with the lint areas. The cap bar type rides on the frame and we have four areas to contend with. So we have four sealing areas that must be met. At any time a seal is added to a top roll, a frictional drawback is added to the assembly.

"Top Roll Runout" was the title of a paper delivered by W. C. Cunningham, Saco-Lowell Shops, Easley, S. C., at the Fall meeting of the South Carolina Division of the Southern Textile Association.

The buffing of top rolls is something which might be dealt upon for just a moment. Anti-friction top rolls need some type of buffing equipment. It should be such that it will present to the grinding equipment the roll in the proper position, so we can maintain a straightness between the two cots and also be able to buff the outside diameter to within .002-inch tolerance. Most top rolls can be buffed very easily within those specified limits. The proper roll maintenance in the field has been a problem; not the design of the roll. It has been endeavored to make one that is almost foolproof, so it can be handled by all types of buffing and maintenance equipment.

Pomeranz Pleas For Fair Tax Structure

Robert E. Pomeranz, president of Roberts Company, Sanford, N. C., has urged the federal government to provide a more realistic depreciation rate, allowing tax-write-off of capital equipment purchases within ten years and to allow banks a special discount rate to encourage loans for the purchase by industry of new equipment for modernization. Mr. Pomeranz claims that "tax laws as obsolete as the machinery they force the textile industry to work with are resulting in the inexorable loss to industry of both domestic and world markets."

Notes From The S.T.A.

Reviewing Some Of Draper Corp.'s Recent Loom Improvements

By J. DONALD MARSHALL, Manager, Spartanburg Division, Draper Corp., Spartanburg, S. C.

Delivered before the South Carolina Division of the Southern Textile Association at Clemson College, November 9, this paper tells of recent improvements in the operation of Draper Corp.'s looms. The operating details and economics of the new automatic filling magazine are discussed in addition to other new mechanisms such as the Tru-Tension let-off, the No. 14 shuttle check and the linkage parallel.

IT IS a pleasure to meet with members of the Southern Textile Association and have the opportunity of discussing looms and weaving operations. I would like to discuss a mechanism that was exhibited by Draper Corp. at the last Greenville Textile Show and which has been on mill trial since that time. This mechanism is the automatic filling magazine.

This mechanism is designed primarily to eliminate the job of battery filling. Bobbins from a winder are automatically loaded into magazines and then transported to the back of a magazine slide on the loom. Magazines move into feeding position down the slide through the force of gravity and loom vibration. As replenishment of filling is indicated in this mechanism, each cell unloads successively until the magazine is empty. The magazine is then released and returns to the back of the loom.

To make the transfer of bobbins automatic, tip bunches of yarn are wound on the ends of each bobbin at the winder. Then when an individual bobbin is moved into the final transfer position, the tip bunch is stripped off by an extractor and the yarn held by vacuum suction until the transfer cycle is complete. Once the first pick after transfer has been woven into the cloth and the tail to the battery cut, the mechanical timer shuts off the vacuum suction until the next transfer is indicated. Waste from this tip bunch is ejected through tubes into a collection bag.

You will notice also that a suction tube is located at the No. 25 Draper thread cutter to clear loose ends away from the battery area after the temple thread cutter has operated. You may be interested in some general information about this device.

The present design allows for a filling reserve of 2½ magazines; that is, when a magazine in unloading position is half unloaded, two full magazines can be placed on the slide. The capacity of each magazine is 96 1¼-inch diameter packages or 80 1$\frac{7}{16}$-inch diameter packages. On the filling yarn in the fabric woven on the show loom, this amounts to about 20 hours of filling supply at the maximum load.

Economics

We have the automatic filling magazine on limited trial in three mills in the South. One of these mills has asked us to furnish it sufficient additional mechanisms to triple its present installation of this device. This larger test installation seemed attractive to this mill based on its experience with their present mechanisms. Studies that the mill conducted indicate to it a pay-off period well within its five-year standard, based on consideration of only two readily apparent savings: (1) elimination of battery fillers; and (2) establishment of filling hauling into a cyclical process, hence greatly reduced materials handling costs.

The magazine will also offer: (1) cleaner yarns and fewer cloth seconds as a result of less handling; (2) remove loose filling ends automatically; and (3) reduce drag-ins and other imperfections caused by filling waste being drawn into the weave.

It is hoped that the larger installation will provide data in regard to other theoretical savings in reduced seconds and yarn waste.

Other Mechanisms

The Tru-Tension let-off, developed jointly by Draper engineers and an outside engineering firm, is designed to give a constant rate of yarn delivery to the loom while maintaining constant tension on the warp yarn. The new let-off has been provided with two required features: (1) a positive and continuous drive; and (2) a compensating friction transmission, or drive-adjusting device, to provide automatic control of let-off speed and yarn tension from full to empty beam. The Tru-Tension let-off has successfully eliminated uneven or wavy cloth on various critical weaves. It has proven to be particularly useful on synthetics and fine cottons.

Whereas the No. 4 Automatic Bartlett let-off, driven from the sword, gives an intermittent let-off action, the Tru-Tension let-off has positive and continuous let-off action due to the fact it is driven by means of sprockets and a roller chain from the crank shaft. The let-off is now available for X-2, XD and XP looms.

No. 14 Shuttle Check

The problem of boxing a shuttle has become more important with the trend to higher loom speeds and greater shuttle velocity. The No. 14 shuttle check was essentially developed for our XP-2 loom and has worked so well that we have adapted it to the X-2 loom, which is our cotton loom up to and including 62 inches. The device consists of a circular check strap surrounded by auxiliary check strap and a "catcher" strap, each checking circle being adjustable.

The friction of these straps, each taking only a part of the force, to a large degree does the checking, reducing the adjustment of friction fingers on the inner strap from a critical setting point.

Linkage Parallel

The linkage parallel is the result of many hours of development engineering. The fully constrained type of parallel motion seems to overcome many of the disadvantages of the Stearns type of parallel. Our present design has been engineered to withstand extreme conditions of usage.

From the beginning, this parallel motion has always given extremely good shuttle flight control and the problem has been to dissipate harmlessly the forces generated. Recent improvements we have made appear successful and we eventually expect to have this motion for all popular loom models.

You are familiar with the various loom models presently being built by Draper. You may be interested in a brief summary of three of the loom models in respect to present new construction and present sales trends.

The X-2 loom continues to be our most popular loom. Introduction of a semi-low roll wind-up, ratchet take-up and a center filling fork has extended its usage from the weaving of cotton fabrics to spun and filament synthetics. We are producing the X-2 loom today in a wider, 50-inch width. We have more of these 50-inch looms today than the 40-inch loom, which used to be our best seller.

The XD loom is the standard loom for synthetic weaving requiring dobby application. Recent work has been done on application of longer throw crank shafts for weaving at higher speeds. Longer throw crank shafts, of course, give more shuttle flight time. We have noticed a demand for wider widths in this loom.

The XP-2 loom is our present wide sheeting loom in 82, 90 and 100-inch widths. It was first introduced at the 1954 Greenville Textile Show and is beginning to enjoy widespread acceptance. We have over 1,200 of these looms in operation, running satisfactorily in the field.

Future Weaving Methods

We all know about the present depressed state of textiles. You all have probably read various economists' projection of future business conditions as a whole. Without exception, they all seem to think a gradual rise in costs of labor and raw materials can be expected. The only way to offset those rises, and maintain some semblance of a profit picture, is to drive for greater worker productivity.

It seems evident that in a period of higher labor costs increased attention will be devoted to labor-saving devices. We have gone into some detail about the automatic filling magazine here because it seems to us to be one tool that will be used to get higher worker productivity.

There are numerous news stories about the present Russian satellite "Sputnik" and "Muttnik" and Russia's claim to the inter-continental ballistic missile, the "ultimate weapon" in warfare. The "ultimate" in weaving machinery has been the perfection of a practical shuttleless loom. Published reports have indicated from time to time that we have a shuttleless loom in the experimental stages of development. Just recently Mr. West, our president, announced that the Draper shuttleless loom would be ready to show customers in about a year.

Up to the present, trials have been running on the medium and coarse goods fabrics. We have experimented in a limited manner with spun synthetic weaves but have conducted no trials on filament weaves to date. Future developments may prove that this loom is adaptable to other types of fabrics.

We have had a trial unit of these looms running in a mill for about nine months. The test is proceeding in a satisfactory manner but is not yet conclusive. When the shuttleless loom is eventually introduced its first effect will be to hasten the obsolescence of older loom models now on fabrics best suited to shuttleless weaving. There are presently in this country some 180,000 E, K and Modified D Draper looms. These are the looms that would have to face the initial challenge of a shuttleless loom.

The current models of Draper looms—the X series—would have the cushioning effect of later mechanisms such as the automatic filling magazine which would protect them production costwise until the E, K and Modified D looms were replaced. If and when the shuttleless loom becomes

J. Donald Marshall, manager of the Spartanburg (S. C.) Division of the Draper Corp., Hopedale, Mass., spoke on "The Draper Automatic Filling Magazine and other Draper Loom Improvements" at the Fall meeting of the S.T.A.'s South Carolina Division.

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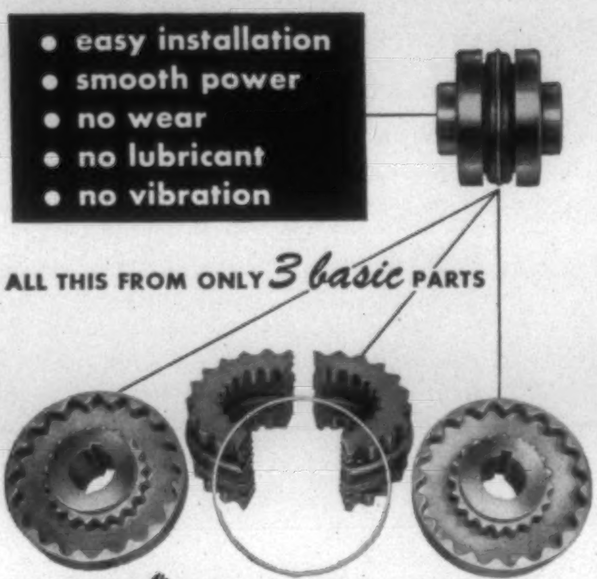

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available it will probably be as it was in 1942, when the Bell people came out with their first jet-propelled airplane. However, there are a great many airplanes today powered by other means.

Summing Up

To sum up Draper's activities, we are engaged in a three-fold program: (1) design engineering to make your present looms more satisfactory; (2) engineering development to perfect attachments for the X series of Draper looms that will materially lower your weaving costs; and (3) research efforts to develop radical weaving improvements.

Questions

Question: Why are you concentrating on using rewound filling?

Mr. Marshall: We are concentrating on rewound filling primarily because we think it to be the more economical method. It is the method that offers maximum protection against defective bobbins of yarn being introduced into the transferring operation. In using a winder or quiller with an automatic bobbin loader there is no manual handling of the bobbin at all, whereas a doffing operation is required in direct spinning.

Question: What are you planning to do about the source of air required at each loom?

Mr. Marshall: Most mills already have air compressors. You need about 25 to 28 pounds of pressure in the line. If no air is readily available, the approximate cost for the compressor would be about ten dollars per loom, based on an installation of 500 looms.

Question: How much air does it use?

Mr. Marshall: About one cubic foot of "free air" per transfer. The air is on only at the time of the transfer. All of this is controlled by the mechanical timer.

Question: You mentioned that bobbins are loaded in the magazines at the quiller for the automatic filling magazine. Can you use conventional spun filling with this device?

Mr. Marshall: Yes, while we have directed our main efforts toward rewound filling for the automatic filling magazine, our engineers have been very successful with conventional spun filling. Saco-Lowell and Whitin have also been very successful with this. Our present arrangement is to use a Draper bunch builder on the spinning frame to build the feeler bunch and the tip bunch required by the automatic filling magazine. When the bobbins are doffed from the spinning frame they are processed through an especially-built bobbin loader, which completes the tip bunch and automatically loads them in the filling magazine. About 60 bobbins a minute can be loaded in the filling magazine with this device, which is already being tried in a mill and is operating successfully. The spinning people are also working on a bunch builder and a bobbin-loading device to allow the use of direct-spun filling in our automatic filling magazine.

Question: Will the quality of the cloth be affected by the automatic filling magazine?

Mr. Marshall: Its use should really improve the quality of the cloth. This eliminates the battery hand completely.

The proper training of battery hands is very important to good quality, as you know. The filling is not touched by hand at all, so there are no soiled bobbins, and no bobbins are improperly placed in the battery. All loose ends hanging around the magazine and the thread cutter are completely removed.

Question: What about the job assignment of the loom fixers? Will they be able to handle the same number of these looms as of the regular battery looms?

Mr. Marshall: Based on the trials we have under way now, no increase in loom fixers will be necessary, all other conditions being equal.

Question: Who makes the bobbin loader you spoke of?

Mr. Marshall: We built the first one. As I said, Saco-Lowell and Whitin are working on a loader. As the bobbin is doffed it is carried in a regular doffing box and carried to the loader. The bobbins are automatically lined up, so that one can not go through tail first. The bobbins go into the loader and that goes into a carrier which takes it into the quiller room.

Question: You said that the X series of looms would be protected by mechanisms such as the automatic filling magazine, while the E, K and Model D looms would face the first challenge of the shuttleless loom. Does this mean that you will not make the automatic filling magazine for the E model loom?

Mr. Marshall: Yes, it is not our present plan to adapt the automatic filling magazine to other than the later X series of our looms.

Mr. A: What do you do about part bobbins?

Mr. Marshall: You mean pieced bobbins?

Mr. A: Yes.

Mr. Marshall: You have to have a piece ejector.

Mr. B: In winding this filling isn't there a large chance of that tip on the bobbin being knocked off and being wound in?

Mr. Marshall: I failed to mention that that tip is solid for 1.5 inch; it cannot be knocked off. In building the tip bunch it makes a pretty tight package which will not be knocked off.

Mr. B: There is no danger of its being knocked off?

Mr. Marshall: It is a pretty tight package. You are talking about spun yarn now. It goes into the hopper and is aligned with the tail ends together. If it knocks the tip off the bobbin is ejected.

Question: I realize this possibility does not amount to too much but from where I was sitting it appeared to me that the bobbin size had been decreased. Are you running a smaller-weight package?

Mr. Marshall: No, we are using two sizes. We are running on the E section $1\frac{1}{8}$-inch and on the G section $1\frac{7}{16}$-inch diameter.

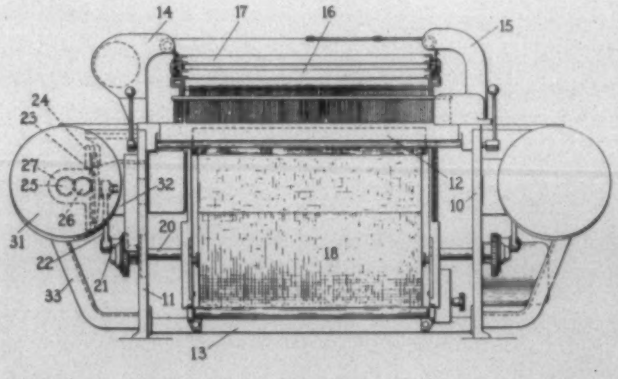
A Progress Report On Draper Corp.'s Shuttleless Loom

THE new shuttleless loom which is being field tested by the Draper Corp., Hopedale, Mass., features spring steel tapes wound on oscillating sheaves on either side of the loom. The tapes are able to dart in and out of the shed inserting picks of filling. As shown in the patent papers covering the invention, the use of 22 permanent magnets under the non-magnetic rim of each sheave holds the tape tightly in position and operates without the need for lubrication.

Fig. 1 is a front elevation of the shuttleless loom. The relative positions of the oscillating sheaves can be readily seen from this figure, which is taken from papers for Patent No. 2,810,403 granted to Kenneth E. Sanderson and Anthony J. Tosches and assigned to Draper. The harness motion of the new loom is to be adapted to open the shed in a conventional manner but not as wide as necessary on looms with conventional shuttles. The obvious advantage in this narrow shed is the reduction in strain and excessive tension on the warp ends as the shed is opened and closed very quickly. This action will probably allow greater speeds without increased warp end breakage.

According to earlier Draper patents, the filling motion cycle may be considered to include the insertion of a so-called "hairpin" from the right and a similar movement of the parts incidental to inserting a complete "hairpin" from the left or vice-versa. That cycle includes four picks inserted in four separate sheds after which the cycle is ready to repeat. It is also pointed out that other variations of this scheme can be employed.

At the end of each spring steel tape there are filling carriers made of sheet material finished in a general U-shape and containing appropriate thread gripping devices. The right-hand carrier is smaller so that it may enter the larger left-hand carrier at the center of the shed, where they meet. Each carrier acts as an inserter for pushing the filling to-



This front elevation of the shuttleless loom shows the relative positions of the oscillating sheaves. The harness motion of the new loom is to be adapted to open the shed in a conventional manner but not as wide as necessary on looms with conventional shuttles enabling high operating speeds without excessive strain on warp yarns.

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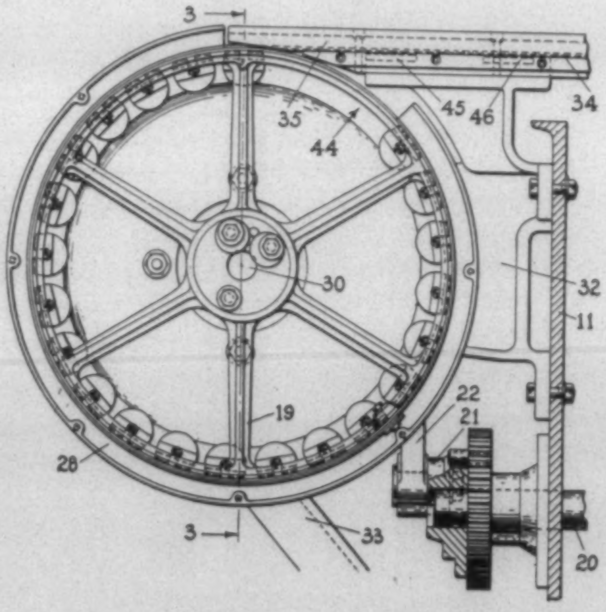
ward the center of the shed. Each then functions to engage filling transferred from the opposite carrier and to draw it outwardly from the shed.

The newly issued patent, No. 2,810,403, explains a magnetic method of holding the flexible tape in contact with the oscillating sheave without contributing any appreciable friction load, heat, wear, scuff or need for lubrication. Fig. 2 shows the left-hand oscillating sheave with the front cover off. The patent explains that the permanent magnets attract and hold the flexible member or tape (34) against a special non-magnetic stainless steel rim on the wheel (19). The magnets are attached to the wheel housing (28) and are preferably of such size and spacing as to resist any tendency of the tape to leave the rim as the wheel is oscillated except, of course, as the tape enters the guide (35).

In addition, other magnets (45) and (46), shown in Fig. 2, may be placed in the guide (35) to more accurately control the movement of the tape (34). The use of magnets to hold the tape against the wheel obviates the use of lubricants heretofore necessary with other means to hold the tape against the wheel such as rollers and there is no friction or generation of heat when magnets are used. Also with rollers there is the necessity of very close spacing. In practice, the rollers cannot be set as close to the tape as desired and there is a releasing and tightening action of the tape on its sheave at each pick. With the tremendous speeds and the reversal of directions, there is great wear and gouging.

Trials on the shuttleless loom have been running on medium and coarse goods fabrics. A limited number of experiments have been run with spun synthetic weaves but the company has not run trials on filament weaves as yet. The company reports that the tests are proceeding in a satisfactory manner but are not yet conclusive. Future developments may prove that this loom, which is said by the company to be about a year away from being ready to go on the market, is adaptable to other types of fabrics.



This view of the left hand oscillating sheave, with the cover removed, shows the permanent magnets which attract and hold the flexible member or tape (34) against a special non-magnetic stainless steel rim on the wheel (19).

Bleaching, Dyeing & Finishing

American Association of Textile Chemists & Colorists

A.A.T.C.C. Convention Highlights

This is a report of the proceedings of the 36th annual convention of the American Association of Textile Chemists and Colorists, which was held November 14-16 at Boston, Mass. In addition to a progress report on research operations and an outline of financial conditions of the research program, this article contains major points of importance from seven papers which were delivered before the meeting.

THE American Association of Textile Chemists and Colorists held its 36th annual convention, November 14-16, at the Hotel Statler, Boston, Mass. In addition to the scientific papers which were delivered to the meeting, highlights were the presentation of the Olney Medal for outstanding achievement in the field of textile chemistry to P. J. Wood, Royce Chemical Co.; tours of Greater Boston industrial installations and university and military research facilities; honor awards to A.A.T.C.C. charter members; a "State of the Association" message by President George O. Linberg; and evening activities in the hotel's ballroom.

In welcoming the group to the meeting, Ernest R. Kaswell, vice-president of the A.A.T.C.C.'s New England Section and convention chairman, said that it was particularly appropriate that the meeting be held in Boston where the organization was founded 36 years ago. He said that it was appropriate not only because of Boston's nostalgic charm but also because of Boston's "lead in research, in science and in progress." He suggested that there has never been a more pressing need for basic research and international co-operation in the lifetime of anyone present at the meeting. Basic research "is just as applicable and just as vital to the textile and chemical industries as it is to electronics and missiles," he said.

"I strongly urge the A.A.T.C.C. to take measure of this fact," Mr. Kaswell said, "and give consideration to the allocation of funds, no matter how modest, for the sponsorship of basic research." He added that now more than ever we must realize that such money is not spent for idyllic pursuits in ivory towers. "It is an intelligent and sound investment in the future," he said and added that it should be an important function of the organization. Mr. Kaswell expressed the hope as convention chairman that the meeting would be days of education, stimulation and action. In conclusion he said, "science and technology have always led the way in practicing international co-operation."

When a number of organizational changes currently under way in the research operations of A.A.T.C.C. have been completed, corporate members will receive a substantially larger return for their yearly dues investment in the association's research program, according to Albert E. Johnson, director of trade relations, National Institute of Drycleaning and A.A.T.C.C. national corporate membership committee chairman. He said that this increased benefit would come about "as a result of a more direct relationship between the many volunteer-staffed research committees and the paid staff of the association's laboratories."

The three principal benefits of these new intra-organizational improvements cited by Mr. Johnson are: "(1) the production of newer, more efficient test methods; (2) a reduction in demands upon corporate laboratories for research that can best be done by the association's research staff; and (3) better project management by A.A.T.C.C. for a more effective utilization and co-ordination of the available scientific facilities of industry." He added that the ultimate in research services to industry will not be realized unless the whole program is financed adequately.

The financial needs of the association's research program has been set at $100,000 or some $29,000 more than the current annual budget. Since this figure will have to come from a greater number of corporate members, the com-

Kaswell, Lindberg, Payne, Thomas

President George O. Lindberg presided at ribbon-cutting ceremonies marking the opening of the 36th national A.A.T.C.C. convention last month at Boston. Looking on were L. R. Kaswell, convention chairman; George Payne, executive secretary of the A.A.T.C.; and Don Thomas, convention exhibits chairman.

mittee, working closely with national headquarters, is developing a new program of membership extension which it is hoped will find generous support in all areas, according to Mr. Johnson.

In the 1956-57 period, corporate and sustaining membership income fell off to $58,152.50, Mr. Johnson said. A year earlier this income had risen to $61,885.00, he said and added that "it is confidently expected that in the coming year these revenues will once again show a gain toward the projected goal.

Technical Sessions

Under the chairmanship of Dr. Carlyle Harmon, Chicopee Mfg. Corp., the November 16, morning technical session featured seven scientific papers. The first of these papers was presented by W. H. Ridley, The Foxboro Co. Mr. Ridley's subject was "Automation With Process Instruments." Pointing out that company directors are and always have been vitally interested in automation, Mr. Ridley said that modern process instruments represent automation in the best sense of the word. "There is today," he said, "a great variety of new instrument automation to aid the textile industries in doing a better and more economical job. However, actual or operating management and their staffs do not always have the time, inclination or the money to give these new tools proper evaluation."

The average mill only uses about one-third as much automation as is possible and that third is hindered by the lack of proper maintenance and by the lack of interest on the part of operating supervisors and their staffs, he said. "The success of some of the newer textile processes depends completely on automation of the latest type," he added.

Mr. Ridley made the following suggestions as remedial steps: (1) recognize the importance of industrial instruments by removing them from the gadget classification; (2) take a budgeted amount from earnings each year, before dividends, to improve efficiency through instrumentation; (3) place responsibility in one qualified engineer to check and approve all instrument requisitions; (4) analyze all instrument details which are included with new machinery specifications; (5) keep records of increased efficiency to substantiate the continuing automation program; (6) provide proper maintenance of instrumentation; (7) make sure that the instruments are properly operated and fully utilized; and (8) include in estimate of total installed cost instrument training for operating personnel.

The feature of any national A.A.T.C.C. convention is the free exchange of technical information. Shown in session here is one of a number of panels participating in this year's meeting. Its members are E. S. Shanley, Arthur D. Little Inc.; W. R. Steele, Allied Chemical & Dye Corp.; Dr. George Thomson, Fabric Research Laboratories Inc.; L. D. Berger, Union Carbide Chemicals Co.; and A. N. Henschel, Warwick Chemical Co.

Wool Scouring

E. C. Hansen, Antara Chemical Division, General Aniline and Film Corp., delivered a paper entitled "Scouring Grease Wools Neutral." He discussed problems involved with wool scouring and commented on recent developments in this field. He said that the postwar detergent market in this country has been characterized by a rapid growth of synthetics and a decline in soap consumption. "Alkylphenolethylene oxide adducts have had a remarkable growth in the last 15 years and represent the largest segment of the nonionics. Efficient detergent action on raw wool, stability in hard water and excellent lime soap dispersing action were cited by Mr. Hansen as being advantages of these detergents for wool scouring.

Other advantages for the alkylphenol nonionics are resistance to heat in oxidation or reduction, non-substantivity to wool, good water solubility and rinsability, convenient liquid form and availability at low cost from several suppliers. A final significant advantage for the surfactant is said by Mr. Hansen to be that it can be modified by varying the alkyl group or the length of the ethylene oxide chain. He said that one manufacturer offers 11 products based on nonylphenol ranging from 15 to 95 per cent ethylene oxide.

The variables to be studied in developing a wool scouring process include the type of detergent, the detergent concentration and the processing temperature. Early work indicated that nonionic type detergents which worked in alkaline scouring also were best suited for the neutral scouring process. Later studies indicated that greater efficiency was obtained when the temperature was increased to 145 to 150 degrees Fahrenheit. Laboratory tests made readily apparent the fact that neutral scoured wool was loftier and whiter than alkaline scoured wool. The superior color characteristic was cited by Mr. Hansen as probably being due to: (1) iron salts in the water or the wool and not precipitated at a neutral pH; (2) alkali-soluble ligneous matter in raw wool does not cause staining; and (3) no discoloration of wool caused by alkali.

Wool Well Opened

Mr. Hansen described several practical plant processes. He said that the wool should be well opened before scouring to facilitate separation and removal of solid matter. "This will also hasten wetting of the entire fiber and removal of soils in the suint bowl," he said. He also said that scouring liquors should not be kept too long because of a loss in washing efficiency. "Tests have indicated that borderline washing is obtained when the first scouring bowl shows a grease content of more than two per cent and the second bowl contains more than 0.75 per cent grease," he said. He gave 24 hours as the length of time the liquor could be kept in first and second bowls provided the settling tanks can be opened periodically to dispose of solids deposited at the bottom of the bowls.

"Control of Wool Fabric Shrinkage With Polyamide-

Epoxide Resin Finishes" was the title of a paper delivered by C. E. Pardo and R. A. O'Connell of the U.S.D.A.'s Western Regional Research Laboratory. He said that if they are applied in the right order excellent control of felting shrinkage of wool fabric in laundering can be obtained with polyamide-epoxy resins. In a study to determine the effect of these resin finishes on wool flannel, such properties as tensile and tear strengths, wrinkle recovery and flexural rigidity were considered.

In a conclusion of the study, Mr. Pardo reported that "Protection is obtained when the polyamide is applied and cured on fabric before applying the epoxide or when the two resins are mixed before application." The shrinkage resistance is relatively poor if the order of application is reversed or the fabric is treated with either resin alone. Mr. Pardo added that the shrinkage protection has been "related to concentration and proportions of the resins and the conditions of cure. Excellent shrinkage resistance is obtained with proportions between 30 and 70 parts by weight of either resin at uptakes of 3.5 to four per cent." Resin combinations in which the polyamide constitutes 80 parts or more by weight of the total resin fail to protect the fabric from shrinkage. Mr. Pardo said that this result is attributed to failure of the polymer to spread over the surface of the fibers so that it adheres poorly to the fabric.

"The resin is cured by either dry heat alone or by hot water under neutral or alkaline conditions," he said. Although the resin finish is not properly cured when boiled under acid conditions, if pre-cured at an elevated temperature prior to boiling, the finish is fast to typical acid dyeing conditions, Mr. Pardo added.

Other results noted were: (1) shrinkage protection increases linearly with resin concentration; (2) approximately five per cent resin on weight of fabric was needed to secure complete protection under the conditions of the trials; (3) fabric dried and cured one hour at 105 degrees centigrade retained its shrinkage resistance after boiling for an hour or three-hour immersion in Stoddard solvent.

Static Electricity

Dr. Emery I. Valko and Dr. Giuliana C. Tesoro, Onyx Oil & Chemical Co., presented a paper entitled, "Elimination of Static Electricity From Textiles by Chemical Finishing" before the convention. The mechanism of protection against static accumulation was described in terms of chemical structure of finishes and processing aids. The paper points out that electrical conductance of antistatic agents is related to their capacity to ionize and to attract water. The dependence of the electrical resistance of the finished textiles on the construction of the fabric and on the nature of the fiber was illustrated.

The resin used for an antistatic finish on hydrophobic fibers such as nylon and Dacron can also be used as a binder for pigment printing such fabrics. In addition a method was presented for determining the amount of such a finish on the fabric and it was shown that nonionic humectants act as antistatic agents by activating the random electrolytes on a fabric so long as the moisture present is

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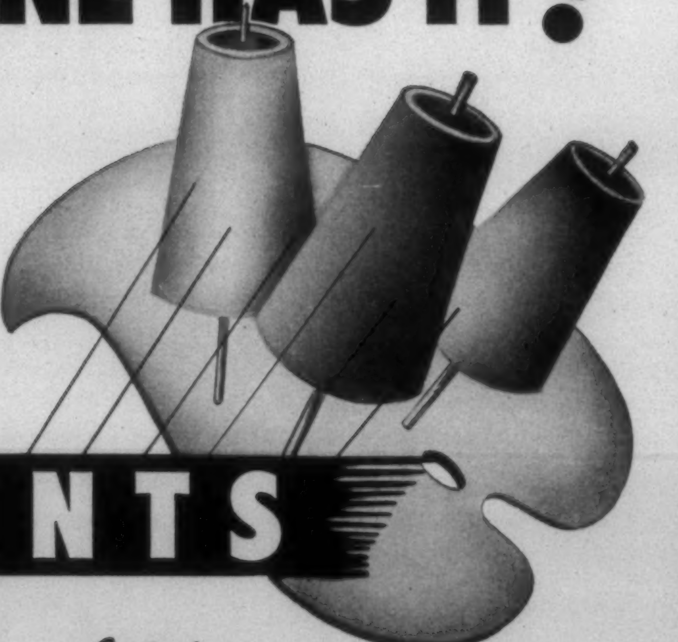

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great enough to form a film and keep the electrolytes dissolved.

The ion exchange resin formed on the surface of the fabric by polymerization of polyetheylene glycol diacrylate shows high hygroscopicity because of the presence of the polyoxyethyl chain, the paper pointed out. In fact, its moisture regain was found two or three times that of cotton or rayon. Too much of this property can reduce the durability of the finish by reducing its mechanical strength and its resistance to wet abrasion as found in laundering.

The ion exchange capacity of the Aston resin which was described can be used to determine the amount of finish on the fabric. Using anionic dyes in the ion exchange reaction in acetic acid, the amount of dye absorbed can be measured. Colorimetric measurements were found fast and sensitive, the paper said.

Chlorine Retention & Crease Resistance

A paper by Osborne C. Bacon, J. Edward Smith and Lehman E. Hughes, organic chemicals department, The Du Pont Co., discussed the effect of laundering on chlorine retention and crease resistance of cotton finished with dimetholol ethylene urea. The paper points out that, if laundered at home, improved chlorine resistant finishes on cottons treated with dimethylol ethylene urea (D.M.E.U.) resin for crease resistance are possible. Excellent resistance to damage from chlorine retention can be provided by a D.M.E.U. finish used in connection with a zinc nitrate catalyst where processing includes a one-minute cure at 325 to 375 degrees Fahrenheit followed by a neutralizing wash. It was found that this wash is essential for resistance after laundering.

Other pertinent information revealed by the study includes: (1) magnesium chloride catalyst is inferior to zinc nitrate but superior to the alkylol amine hydrochloride for producing resistance to chlorine retention damage; (2) the discoloration of white fabric is least with magnesium chloride, greatest with zinc nitrate and intermediate with the alkylol amine hydrochloride; and (3) the whiteness retention with zinc nitrate is best at the lower curing temperatures.

It was stated in the paper that indications are that curing temperature and catalyst do not have a strong bearing on crease resistance either before or after laundering. These factors do have an effect on whiteness retention of the treated fabric. For acceptable whiteness, temperatures above 350 degrees Fahrenheit should be avoided for amine and zinc based catalysts. Temperatures up to 375 degrees Fahrenheit are preferred with magnesium catalysts for least chlorine retention or as low as 325 for best strength. In summarizing, it was shown that fabric color places a restriction on the temperature range that can be employed with each catalyst.

Soiling Studies

A report of "Wet Soiling Studies on Resin-Treated Cotton Fabrics" by a research team consisting of Laurence W. Mazzeno Jr., Russell M. H. Kullman, Robert M. Reinhardt, Harry B. Moore and J. David Reid of the U.S.D.A.'s Southern Regional Research Laboratory, New Orleans, La., said that a number of complaints had been made because some resin-treated cottons became soiled during laundering. The study said that cotton cloth treated with a dimetholol cyclic ethylene urea-acrylate-silicone finish has been found to be subject to wet soiling.

This is reported to be especially true under conditions such as are encountered in commercial laundering. It was also reported that once soiled, cotton fabrics treated with this finish cannot be cleaned. The soiling is irreversible. The addition of carboxymethylcellulose will decrease the amount of soiling slightly but not sufficiently for good reconditioning. The additive prevents a redisposition of soil. Drycleaning was also found to be ineffective in removing soil from fabrics with this finish.

The chief causes of the soiling are reported to be the soft, tacky films of acrylate and silicone which are deposited on the surface of the fibers. The dimetholol cyclic ethylene urea does not contribute to wet soiling. In fact, the report said that cotton fabrics treated with commercial methylol resins, without additives, have been found to be more resistant to wet soiling than untreated control fabrics.

A simple test, with the variables being time, temperature and concentration of soiling material, has been adopted. Cloth swatches are soiled in a Launder-Ometer with a soap solution containing a small amount of carbon under controlled conditions. A quantitative estimation of the extent of soiling is obtained using a reflectometer.

Tear Strength

The findings of a study by E. James Stavrakas and Milton M. Platt, Fabric Research Laboratories Inc., to determine the factors which contribute to the loss in tear strength of resin treated fabrics were reported in a paper entitled "Effect of Finishing Treatments on Tear Strength of Cotton Fabrics." A cotton fabric is subjected to a number of preparatory finishing treatments, prior to resin treatment, which alter its geometry. The ends and picks per inch, yarn crimp, crimp balance and frictional characteristics of the surface of the fiber are affected.

The report of the study included an evaluation of the effect of each of the finishing treatments on the tear strength of cotton. Thus, the effects on tear strength of cotton fabrics of desizing, scouring, bleaching and dyeing and resin treatment have been studied and related to changes in fabric geometry and to yarn and fiber properties.

Fabric Finishing, 1956

THE Bureau of the Census, U. S. Department of Commerce, reports that a total of 10,188 million linear yards of cotton, silk and man-made fiber fabrics was finished during 1956. This was three per cent below the 1955 figure.

Cotton fabrics finished amounted to 8,040 million linear yards, one per cent less than the quantity finished in 1955. The 2,148 million linear yards of silk and man-made fiber goods finished was nine per cent less than the previous year's total.

Of the total fabrics finished, 6,220 million linear yards were finished for apparel uses. This was six per cent below the 1955 level. The quantity finished for household uses increased six per cent from 1955 to 2,186 million yards in 1956. For other uses the quantity finished declined four per cent.

Finishing plants located in South Carolina finished 27 per cent of the cotton goods. North Carolina and Massachusetts followed with 16 and 14 per cent, respectively. In the finishing of man-made fiber and silk fabrics, New Jersey was the most important state, accounting for 40 per cent of the total production. Massachusetts and New York accounted for 14 and 13 per cent, respectively.

Table 1.--COTTON, SILK, AND MAN-MADE FIBER BROAD WOVEN GOODS FINISHED, SUMMARY BY TYPE OF FABRIC AND FINISH: 1956-1952 AND 1947

Type of goods	Production (thousands of linear yards)					
	1956 (preliminary)	1955*	1954[1]	1953	1952	1947[1]
Bleached, dyed, or printed goods, total	10,188,114	10,501,865	9,595,047	9,647,322	9,802,504	8,915,147
Cotton	8,039,956	8,143,628	7,407,348	7,628,912	7,532,104	6,944,456
Man-made fiber fabrics and silk	2,148,158	2,358,237	2,187,699	2,018,410	2,270,400	1,970,691
Bleached and white finished goods, total	3,849,883	3,667,593	3,376,427	3,560,434	3,598,229	3,814,867
Cotton	3,534,671	3,346,394	3,179,589	3,354,601	3,379,937	3,616,001
Man-made fiber fabrics and silk	315,212	321,199	196,838	205,833	218,292	198,866
Plain dyed and finished goods, total	4,086,948	4,319,787	3,981,614	4,044,892	4,186,808	3,176,320
Cotton	2,572,050	2,671,479	2,308,304	2,454,167	2,413,140	1,757,386
Man-made fiber fabrics and silk	1,514,898	1,648,308	1,673,310	1,590,725	1,773,668	1,418,934
Printed and finished goods[2], total	2,251,283	2,514,485	2,237,006	2,041,996	2,017,467	1,923,960
Cotton	1,933,235	2,125,755	1,919,455	1,820,144	1,739,027	1,571,069
Man-made fiber fabrics and silk	318,048	388,730	317,551	221,852	278,440	352,891

[1] Data for 1947 and 1954 are from the Census of Manufactures for those years.
[2] Includes roller, screen, flock, and block printed.

Table 2.--COTTON, SILK, AND MAN-MADE FIBER BROAD WOVEN GOODS FINISHED, BY TYPE OF FINISH, BY GEOGRAPHIC DIVISION AND STATE: 1956 AND 1955

Type of goods, division, and State	Production (thousands of linear yards)							
	Total finished		Bleached and white finished		Dyed and finished		Printed and finished[1]	
	1956	1955*	1956	1955*	1956	1955*	1956	1955*
COTTON, SILK AND MAN-MADE FIBER WOVEN FINISHED, TOTAL	10,188,114	10,501,865	3,849,883	3,667,593	4,086,948	4,319,787	2,251,283	2,514,485
Cotton woven goods finished	8,039,956	8,143,628	3,534,671	3,346,394	2,572,050	2,671,479	1,933,235	2,125,755
New England								
New Hampshire	86,058	60,854	34,710	32,902	(D)	(D)	(D)	(D)
Massachusetts	1,123,235	1,153,215	738,932	697,124	167,727	174,181	216,576	281,910
Rhode Island	558,337	631,910	201,711	196,879	141,154	179,589	215,472	255,442
Connecticut	211,271	258,519	125,167	117,792	47,031	68,207	39,073	72,520
Middle Atlantic								
New York	212,307	223,108	102,777	107,999	96,897	101,336	12,633	13,773
New Jersey	401,935	391,641	209,542	193,547	95,215	89,909	97,178	108,185
Pennsylvania	92,085	86,528	(D)	(D)	(D)	(D)	29,682	(D)
South Atlantic								
Virginia	249,465	233,135	(D)	(D)	55,925	63,871	(D)	(D)
North Carolina	1,268,825	1,258,031	464,980	445,247	618,985	627,212	184,860	185,572
South Carolina	2,189,441	2,309,772	637,051	625,146	666,276	710,738	886,114	973,888
Georgia	619,269	581,986	267,822	253,237	271,772	250,490	79,675	78,259
Other divisions								
Illinois	195,113	190,222	180,357	172,740	14,443	17,188	313	294
Tennessee	137,197	110,059	(D)	(D)	(D)	(D)	(D)	(D)
Alabama	307,557	273,950	157,761	(D)	(D)	127,784	(D)	(D)
California	8,857	9,251	(D)	926	6,702	6,720	(D)	1,605
Other States, not shown separately above	379,004	371,447	164,058	149,889	163,917	175,777	51,029	45,781
Man-made fiber and silk woven goods finished	2,148,158	2,358,237	315,212	321,199	1,514,898	1,648,308	318,048	388,730
New England								
Massachusetts	292,869	314,129	99,297	(D)	171,507	218,448	22,065	(D)
Rhode Island	79,244	96,458	9,522	10,299	61,819	63,248	7,903	22,911
Connecticut	100,978	128,640	(D)	18,317	56,709	76,959	(D)	33,364
Middle Atlantic								
New York	277,600	306,581	57,705	57,019	145,914	164,246	73,981	85,316
New Jersey	869,688	921,562	68,293	89,257	637,194	620,013	164,201	212,292
Pennsylvania	45,694	62,007	(D)	(D)	39,057	54,784	(D)	(D)
South Atlantic								
Virginia	118,095	143,278	(D)	(D)	(D)	(D)	...	...
North Carolina	197,259	205,727	(D)	(D)	161,648	167,650	(D)	(D)
South Carolina	93,813	100,290	7,591	11,464	74,434	82,314	11,788	6,512
Other divisions								
California	9,280	12,617	(D)	(D)	(D)	(D)	(D)	(D)
Other States, not shown separately above	63,638	66,948	2,302	4.600	55,492	57,420	5,844	4,928

*Revised.
D Withheld to avoid disclosing data for individual companies.
[1] Includes roller, screen, flock, and block printed.

Maintenance, Engineering & Handling

Modern Adjustable Speed Drives

By A. T. BACHELER, Application Engineer, Systems Control Engineering Department
Westinghouse Electric Corp., Buffalo, N. Y.

This paper, delivered before the Fall meeting of The American Society Of Mechanical Engineers, September 23-25, in Hartford, Conn., describes the basic features of the direct current, adjustable voltage drive. In addition, the characteristics of the constant speed, shunt-wound motor, the adjustable speed motor, the compound-wound motor, the series motor and applications to various drive systems are discussed.

ADJUSTABLE voltage, direct current drives have been established in the textile industry for decades. Where there is a requirement for an adjustable speed drive, there will likely be found a d.c. adjustable voltage drive. In its simplest form the adjustable voltage d.c. drive consists of a d.c. shunt-wound motor excited at constant field and whose armature is energized from a separately excited constant speed d.c. generator. The field excitation of the generator is adjusted to vary the generator voltage and, by this means, the motor speed.

Shown in Fig. 1, the main power and excitation circuits form this simple drive. The great majority of d.c. adjustable voltage drives for textile applications are based on this circuit and its simple modifications.

The shunt-wound motor has essentially constant speed characteristics and when operated at full field and with adjustable armature voltage the shunt-motor speed torque curves of Fig. 2 are obtained. The motor has nearly constant torque capacity over the entire speed range. Its capacity matches the usual friction loads encountered on textile machinery.

Practically all of the power used to drive any textile machine is consumed by friction with almost none of the energy being carried away in the fiber, yarn or cloth. While it is true that the friction load on rotary steam joints varies with steam pressure, squeeze-roll friction varies with roll pressure and speed. Tenter friction varies with transverse tension in the cloth. The usual friction load of textile machinery tends to be roughly constant over a fairly wide speed range. The shunt motor is suitable for driving loads that must run at essentially the same speed setting regardless of load variation and for operation in tandem with other shunt motors.

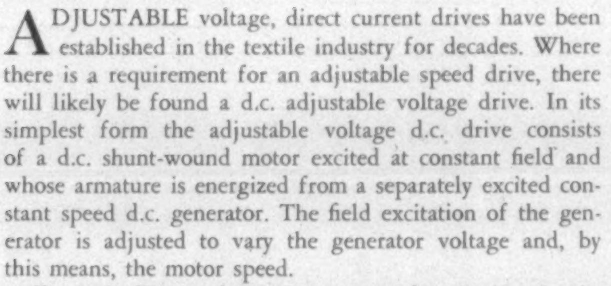

Fig. 1—Diagram for basic adjustable voltage drive.

Other Applications

Another method of operating a shunt motor is to vary its field strength at a fixed value of armature voltage either at rated voltage or some lower voltage. When the motor field is weakened, its speed increases but instead of providing constant torque capability, it has essentially constant horsepower capacity. Constant horsepower capability is particularly suited to winding applications such as warpers, beamers and slasher beams where the beam is driven at the core. A uniform tension is usually desirable in the yarn throughout the buildup of the beam. Disregarding friction, the torque to drive the beam under constant tension conditions increases directly with the diameter and for constant speed of the yarn the speed of the beam in r.p.m. varies inversely with the diameter.

Compound-wound motors have two sources of field excitation: (1) a shunt or separately excited field; and (2) a load current-excited field connected in series with the armature. Both fields are connected additively and, consequently, when the load increases, the net field strength increases and the speed decreases. Compound-wound motors will shirk load or share or divide it when operated with other motors in tandem. Use is made of this capability in the multimotor slasher drive and in bleaching range drives where the yarn or cloth runs through several driven machine sections in tandem and speeds are matched by dividing the load through the yarn or cloth. Tension in the material can be adjusted by adjusting the field strengths of the motors to make them assume the desired percentage of total loads.

Since the yarn or cloth acts as a belt, in this case, and the tension in the material depends on how much torque is left over after taking care of the friction load, it is important that steps be taken to minimize variations in friction. These can be caused by misalignment, binding of parts, bent shafts, eccentric rolls, contaminated bearing lubricants and other mechanical faults.

Drives geared or coupled to the driven shaft frequently must be mounted well above the floor level. A support for such a direct drive must be quite rigid in order to maintain proper alignment under all conditions of loading. A solution that is usually more economical uses a floor-mounted gearmotor solidly anchored on a slide base and connected to the driven shaft by chain and sprockets. This arrangement is less subject to being pulled out of line and yet is more tolerant of misalignment that may exist.

Generator Characteristics

The separately excited generator used with adjustable voltage drives provides most of the speed range of the drive. The generator output voltage is adjustable by varying the field-excitation current and the voltage is only slightly affected by the load current drawn by the motors. The generator is capable of manual control as shown in Fig. 1 and it is also suitable for automatic control by the action of a regulator such as a voltage or speed regulator. The warper is one example of regulating the speed of the drive by controlling the generator field automatically and will be described more fully under applications. The generator is driven by a squirrel-cage induction motor at a fixed speed.

The versatility of the adjustable voltage drive can be demonstrated by considering a few applications. The following examples are selected to illustrate the important types of motors in applications to which they are best suited.

Slasher Drive

The simplest form of slasher drive consists of a single d.c. shunt-wound motor which drives the input shaft of the slasher. The motor speed is varied over the required speed range by varying the armature voltage with the motor field being excited at a constant value. The generator field can be controlled by a manual rheostat, or by a motor-operated rheostat either manually controlled or controlled by an automatic moisture control system.

Such a drive provides constant torque capacity over the speed range. By the addition of some motor-field control range, such as 1½ or two to one, the available speed range can be increased a like amount, and a lower creep speed obtained.

The addition of motor-field control provides greater torque capacity at lower speeds. This feature is advantageous when the slasher must handle a wide variety of yarn weights and number of ends. A set consisting of a large number of ends of heavy yarn requires more drying time than a lighter set, and therefore, the slasher must run slower. The heavy yarn usually requires greater tension at the beam and a higher tension setting on the slip clutch at the beam. The higher tension setting increases the torque requirement of the drive at the low speed, and the drive having the right amount of field control meets this requirement.

Warper Drive

The core-driven warper requires an adjustable speed drive for two reasons: (1) to set the speed of the yarn; and (2) to maintain the desired speed of the yarn as the diameter of the beam builds up. The warper is most commonly driven by an adjustable speed d.c. motor with both field control and armature control.

Some field control is desirable to match the constant horsepower requirements of the yarn tension load. But the typical warper has a substantial component of friction load

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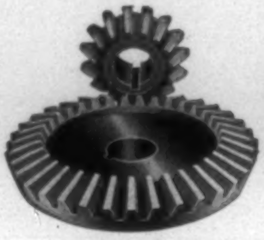
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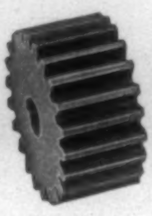
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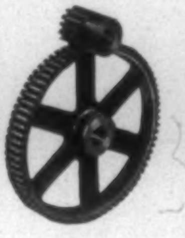
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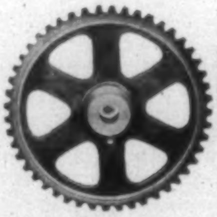
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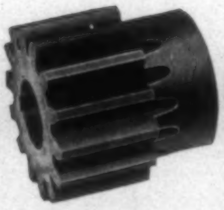
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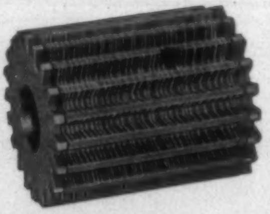
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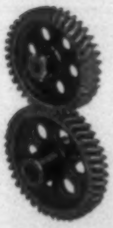
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that is a constant torque load. The range of motor-field control can be made sufficient to accommodate for the range of beam build-up.

One method of warper speed control uses adjustable armature voltage to set the yarn speed and adjustment of the motor field to take care of build-up of the beam. Such a drive usually requires a bigger motor than necessary to meet the torque requirements. A better and more economical match can be achieved by selecting an adjustable speed motor with only that amount of field control necessary to meet the torque requirements from empty to full beam.

The control of yarn speed from empty to full beam at full yarn speed is obtained by using all the field range of the motor and then adjusting the armature voltage as required by the remainder of the build-up.

For example, a warper beam may have a build-up of 3.5 to one from core to full diameter but only require 2.6 times as much torque at full diameter as at empty beam. Instead of a motor having 3.5 to one field control, a motor rated 1,150 to 3,000 r.p.m. by field control could be used. At empty beam and rated yarn speed the motor operates at 3,000 r.p.m. and rated armature volts.

By the time the beam builds up to 2.6 times its empty core diameter, the motor will be down to 1,150 r.p.m. with full field and rated voltage. As the beam builds up to the final diameter from 1,150 r.p.m. of the motor, the motor armature voltage must be reduced with full field on the motor. At full beam, the motor speed is 857 r.p.m. at 75 per cent of rated armature voltage.

Only as much motor field control need be used as is required to obtain the desired yarn speed, it being desirable to operate the motor at full field as much as possible where the torque per ampere is the greatest. To accomplish this a simple feedback control system is used.

The feedback control system may be a speed regulator in which the yarn speed is indicated by the output of a tachometer generator that is driven by a roll over which the yarn passes. This tachometer generator voltage is compared to a manually adjusted voltage that serves as the reference. The voltage difference is amplified and used to control the motor speed. Another method uses a mechanical differential system for controlling the drive speed.

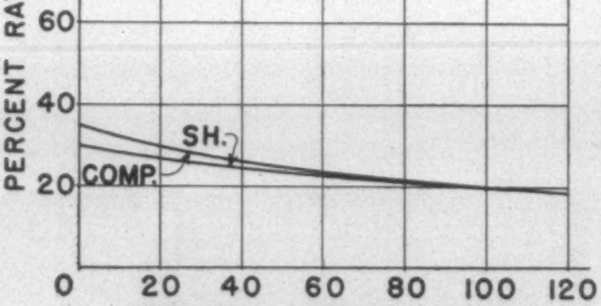

Fig. 2—Speed torque curves of shunt and compound-wound motors at 100 per cent and 20 per cent voltage.

Multimotor Slasher Drive

The multimotor slasher drive uses individual d.c. motors of the proper characteristics to drive the various sections of the slasher. The delivery or calender roll sets the basic yarn speed of the slasher and is driven by a shunt-wound motor to provide a speed that is not particularly subject to load changes. This motor must operate as a generator most of the time since the tension at the beam is usually greater than that in the dryer.

The speed-torque curve of the delivery-roll motor should, therefore, be nearly flat for both motoring and generating action. The motors driving the size-box squeeze rolls are synchronized to the delivery rolls through the yarn. These motors are provided with series fields so they will have droop in their speed-torque characteristics and will tend to share load among themselves and with the delivery-roll motor as required to synchronize.

The beam motor drives to the core of the beam and, as in the case of the core-driven warper, has a constant-tension horsepower requirement from empty to full beam. The speed of the yarn already being established by the delivery roll, the tension in the yarn can now be controlled by beam-motor field control.

The usual method of beam-tension control is regulation of the beam-motor current to a constant value by controlling the field with a magnetic amplifier. For a given yarn speed and armature voltage, maintaining constant armature current produces constant power input. When the losses are small this produces essentially constant yarn tension from empty to full beam.

Load-Sharing Ranges

Under this classification the most usual applications are cloth-bleaching ranges handling cloth in rope form. The load-sharing system can be used wherever the cloth is strong enough to hold the machine sections together without damage or undesirable effects on the cloth or subsequent operations. In such an arrangement, all the motors are provided with manual field rheostats for adjustment of motor speeds and loads. For a section such as a caustic saturator having squeeze rolls and a fairly substantial friction load, a stabilized shunt-wound motor would be used. On the other hand, for reel motors which have very little load except the tension on the fabric, and for plaiter motors, a compound-wound machine would be selected. The use of the compound winding permits sharing load through the cloth. Also, since there is a substantial amount of droop in the speed-torque characteristic, minor changes in motor-field temperature or excitation voltage will not bring about excessive changes in cloth tension at the running speed.

A complete continuous bleaching range usually consists of two or more groups of machines operated in tandem. J-boxes have a lot of cloth storage capacity and the range drive is usually broken up at the J-boxes so that motors between adjacent J-boxes are energized from one generator as an independent group. Since there is so much available storage capacity in the J-boxes it is the usual practice for the operators to be responsible for manually adjusting the group drive speeds. This arrangement of drives is highly flexible and is used for tandem operation of bleach ranges in various combinations.

Synchronized Ranges

Most range drives handling cloth in open width form are provided with synchronization between sections by means of dancer roll-operated rheostats controlling the motors of the individual driven sections. Each machine section is driven by a shunt-wound d.c. constant speed motor. The requirement of adjustable speed operation is provided by armature voltage control of all motors in the range drive. All of the motor-speed range is obtained by armature control of all of the motors as a group, except for the small amount of field-control range required for individual speed changes to obtain synchronizing between sections.

For use in such systems it is necessary to select a motor with sufficient speed range by field control to meet the requirements at all operating armature voltages. It is also necessary to select a motor which will not overheat when operated at the lowest continuous operating speed. It is equally important to select a motor which will have low enough armature-circuit IR drop at field control to be effective at the lowest speed at which relative speed or position control must be obtained.

Range drives having threading speeds below normal operating speed seldom require motor-field control to be effective at threading speeds. Most range drives are applied on the basis that field control need be effective on the motors only at minimum production speed and above. Effective field control at low threading speeds may require larger motor frame sizes to reduce the IR drop.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

John G. Manning

John G. Manning was elected treasurer of the H. F. Livermore Corp. in Boston, Mass., at the annual meeting of the board of directors last month. Mr. Manning has been associated with the company for the past nine years as assistant treasurer. He was previously associated with the accounting firm of Haskins & Sells. Mr. Manning was born and educated in New England. He is also a member of the board of directors of the firm.

Charles Switzer, vice-president of Keever Starch Co. in Greenville, S. C., has been elected second vice-president of the Greenville Chapter of American Business Clubs.

W. Fred Davis has been elected president and treasurer of Palmetto Worsted Mills in Laurens, S. C., succeeding Richard C. O'Brien, deceased. Mr. Davis is one of the original incorporators of Palmetto. B. G. Collingwood of Charlotte, N. C., will succeed Mr. Davis as vice-president and secretary. The elections were held at a recent meeting of the board of directors.

Jean F. Gschwind has been appointed vice-president of development and research for J. O. Ross Engineering Corp., New York City. He will be in charge of all development and research activities concerning Ross air processing systems for the textile industry. Mr. Gschwind has been with Ross for more than 20 years. His most recent post was that of vice-president and general manager of the Ross Midwest Fulton Corp. in Dayton, Ohio. He has also held the position of head of the development laboratory and manager of the Supertherm department. Mr. Gschwind developed a number of heating systems manufactured by the company. He received his technical training in Zurich, Switzerland. He is succeeded at Ross Midwest Fulton by Robert M. Crook, who has been associated for many years with automatic temperature control and condensate drainage systems for paper machines.

Lawrence T. Mettling has been named sales representative of the New York branch of The Torrington Co., Torrington, Conn., covering southern New England and parts of Long Island. He replaces Paul Schwarze, who has been transferred to Atlanta, Ga. A native of New Haven Conn., Mr. Mettling attended the Torrington public schools and joined the company in 1928. He has been active in sales and production control.

Julius A. Schachner Jr. of Schachner Leather and Belting Co. in Charlotte, N. C., has been elected chairman of the textile leather division of the National Industrial Leather Association.

James J. Pollack has been appointed to the position of product sales manager of saran monafilament yarns for Bolta Products Division of the General Tire and Rubber Co. Mr. Pollack replaces Dave Donnan, who has been promoted to sales manager of automotive original equipment. Mr. Pollack will be in charge of the sale of extruded saran monafilaments. He has been with Bolta for nearly five years and has served as sales representative for the retail division. Previously he has been associated with textile mills and compression molded plastics. He was also sales representative to the jobbing trade for D. L. Slade Co. in Boston, Mass. Mr. Pollack served with the U. S. Navy during World War II and received his education at Boston University, specializing in marketing and retailing.

Charles H. Burns has been named administrative vice-president of Fulton Bag & Cotton Mills in Atlanta, Ga. Mr. Burns will continue to act as controller of the firm until a successor is named. Prior to joining Fulton in 1952, he was with Price-Waterhouse & Co., New York.

Richard H. Rhoads of J. E. Rhoads & Sons, Wilmington, Del., has been elected vice-chairman of the textile leather division of the National Industrial Leather Association for 1958.

Alfred T. Loeffler, vice-president of Food Machinery & Chemical Corp., is assuming functional responsibility for the marketing activities of the chemical divisions. Mr. Loeffler will work with the divisions to extend their product lines and sales. A vice-president of the corporation, Mr. Loeffler is also a member of the operating committee of the chemical divisions. Prior to joining Food Machinery, he was associated with Hooker Electrochemical Co. and Monsanto Chemical Co. In 1951 Mr. Loeffler served as the first chief of the chemical branch of the Office of Price Stabilization in Washington. He is a past president of the Salesmen's Association of the American Chemical Industry and is on the board of governors of the Synthetic Organic Chemical Manufacturers Association. He is a graduate of the University of Rochester and Harvard University's Advanced Management Program.

G. W. Sovereign has been promoted to section head of the newly-created melt spinning section of the pilot plant in the Chemstrand Research and Development Center in Decatur, Ala. Mr. Sovereign has been serving as nylon group spinning leader in the plant. Prior to that he was supervisor of the polymer development group at the Pensacola, Fla., plant. He joined Chemstrand in 1953. A native of Fort William, Ontario, Mr. Sovereign was with Canadian Industries Ltd. for six years. He received his B. S. degree in engineering physics from Queens University, Kingston, Ontario, in 1947.

John H. Karrh has been appointed managing director of the over-all existing plastics operations of Reeves Brothers Inc. Mr. Karrh will make his headquarters in the company's executive offices in New York City. Prior to his appointment with Reeves, he was general manager of the fiber division of the Virginia Carolina Chemical Corp. in Richmond, Va. He had previously been general manager of the Butadiene plant of Publicker Industries Inc. of Philadelphia, Pa., and general sales manager of the Eastern division of Victor Chemical Works, New York City.

Clarence E. Hieserman has been named to the newly-created post of senior section head in charge of pilot plant activities in the Chemstrand Corp. Research & Development Center in Decatur, Ala. Mr. Hieserman has been section leader of the pilot plant. He joined Chemstrand in 1952, coming from Celanese Corp. of America where he served as superintendent of research at the Cumberland, Md., Amcelle Plant. A native of Iowa Park, Tex., he received his B. S. degree from Texas Technological College in 1937, his M. S. from Michigan State University and did work towards his Ph. D. degree at Texas A. & M. before joining Celanese. Mr. Hieserman is a member of the American Chemical Society, Society for Advancement of Management, Alabama Academy of Science, and Alpha Chi Sigma.

UNIFORMS TO BE MADE FROM GIFT—Cadet Major John B. Fortin of Decatur, Ga., *(center)* commanding officer of North Carolina State College's famed Pershing rifles drill team, examines 200 yards of red worsted gabardine presented to the college's School of Textiles by John Morgan *(left)*, manager of the Raeford, N. C., plant of Pacific Mills where the cloth was made, and Tom Tolar of Halifax, Va., president of Burlington Industries' Pacific Mills. The cloth will be made into special uniforms for the State College Army R.O.T.C. drill team. *(Photo by Vincent LoMonte)*

C. W. Walter and T. A. Burdeshaw have been elected vice-presidents of the Southern States Equipment Corp. in Hampton, Ga. Mr. Walter, who will act as vice-president in charge of mechanical sales, came with the company in 1945 and has held the position of sales manager of the mechanical division since 1946. Mr. Burdeshaw, who will act as vice-president in charge of engineering, came to the company in 1941 and served as inspector, sales manager, electrical and engineering manager.

E. Paul Schwarze has been appointed sales representative of the Greensboro (N. C.) branch of the Torrington Co., Torrington, Conn. Mr. Schwarze will cover this territory from Atlanta, Ga. A native of Newton, N. J., he is a graduate of Blair Academy and the Philadelphia Textile Institute, where he majored in textile engineering. After graduating, he served as technical sales representative with a yarn firm. He is a past president of the Philadelphia Alumni Chapter of Delta Kappa Phi, the textile fraternity.

Ronald J. Fryer

Ronald J. Fryer is now working as sales representative for the dyestuff and chemical divisions of Sandoz Inc. of New York City. A resident of Cleveland, Tenn., Mr. Fryer reports to the company's Charlotte, N. C., office and travels the states of Georgia, Tennessee and Alabama. Before appointment to the sales force, he passed a sales training period in the company's New York office. A graduate of the New Bedford Institute of Technology, he is a member of the A.A.T.C.C.

Dr. Freddy Khoury, formerly with the British Nylon Spinners Ltd., in Great Britain, has joined the research staff of Fabric Research Laboratories Inc. in Dedham, Mass., as a senior associate. Dr. Khoury is a graduate of Leeds University in England where he received his Ph. D. in 1956. He specializes in the physical chemistry and morphology of natural and synthetic fibers. His is an associate of the Textile Institute and a member of the Society of Dyers and Colourists. He is presently living in Boston.

Ed Lipscomb of Memphis, Tenn., recently received the Distinguished Service Citation of the Public Relations Society of America. Mr. Lipscomb, public relations director of the National Cotton Council, received the society's highest award in recognition of his "leadership in the People-to-People program to build friendship and understanding between Americans and people of other lands." He is chairman of the People-to-People Program initiated by President Eisenhower last year. The award was presented at the annual dinner of the tenth national conference of the Public Relations Society of America.

John M. Feeley

John M. Feeley has assumed the position of sales manager at the Dixon Corp. in Bristol, R. I. He was previously in charge of sales in the New England area. Mr. Feeley will be concerned with nation-wide sales of Dixon products. Dixon originates and manufactures saddle guides for use in the drafting elements of spinning frames.

Boyce C. Bond has been appointed resident manager of Metro-Atlantic Inc., dyestuff firm with offices in Ardmore, Pa. He will cover the Philadelphia area and parts of the South. Mr. Bond, who was most recently with the Pittsburgh Coke & Chemical Co., is the inventor and owner of the patent rights to the Bond continuous dyeing machine.

Promotions have been announced for Charles G. Buie Jr. and James Cranford of Aileen Mills Co., Biscoe, N. C. Mr. Buie was named plant manager in addition to his duties as superintendent. He graduated from N. C. State College in 1951 and served for two years in the U. S. Army. After his discharge he was associated with Virginia Mills Inc., Swepsonville, N. C. He became associated with Aileen in 1954. Mr. Cranford was named assistant secretary. He has been with Aileen since 1942 and has been bookkeeper and office manager for a number of years.

Miss Leona Bell of Charlotte, N. C., has retired after 30 years as secretary to a number of association heads in the textile field. Miss Bell began her textile career as secretary to the late W. M. McLaurine, secretary-treasurer of the American Cotton Manufacturers Association. She continued with his successor, Dr. William P. Jacobs. After the merger of the A.C.M.A. with the American Cotton Manufacturers Institute, she went to Washington with the new executive vice-president, Robert C. Jackson. Later she returned to Charlotte as secretary to F. S. Love, A.C.M.I. secretary-treasurer, where she worked until her retirement.

Donald Comer Sr., chairman of the executive committee of Avondale Mills, received the Brotherhood Award of the National Conference of Christians and Jews at the cotton goods division's annual luncheon at the Waldorf-Astoria Hotel. Mr. Comer recently celebrated his 80th birthday and his 50th year in the textile industry.

A. U. (Buck) Priester Jr., general manager of the Hillcrest Division of Callaway Mills Co. in LaGrange, Ga., and a director of the company, recently received his 25-year continuous employment award. A native of LaGrange, he attended Gordon Institute, Barnesville, Ga., and Clemson College, Clemson, S. C. He is an honorary member of Phi Psi, national textile fraternity. He has been a vice-president of the company and general manager of the Hillcrest Division since 1945.

Howard Holderness of Greensboro, N. C., and John Vanneck of New York City were recently elected to the board of directors of Burlington Industries. Mr. Holderness is president of Jefferson Standard Life Insurance Co. with home offices in Greensboro. A native of Tarboro, N. C., he was graduated from Augusta Military Academy, the University of N. C. and the Harvard School of Business Administration. Following that, he was employed by Jefferson Standard and was elected treasurer in 1932. He served as treasurer, vice-president, and a member of the board of directors until 1945 when he resigned to form Holderness & Co., an investment firm. He returned in 1950 as president of Jefferson Standard. Mr. Vanneck has been president and director of Equitable Holding Corp., New York City, a family investment company, since 1927 and is presently a director and chairman of the executive committee of the American Zinc Lead and Smelting Co., a director of Long Island Lighting Co., and a member of the New York Stock Exchange and the American Stock Exchange. Mr. Vanneck was born in Paris, France, and became a naturalized citizen in 1927.

T. Bayard Baldridge Jr. has been appointed sales engineer for the Rodman H. Martin Co. Inc. of Norristown, Pa., manufacturers of automatic processing machinery. Mr. Baldridge is a graduate of Philadelphia Textile Institute. For 12 years he was associated with Fletcher Works Inc. and for the last few years was division sales manager of the company's yarn processing machinery division.

Claude L. Welch, head of the National Cotton Council's production and marketing division, has been named 1957 "Man of the Year in Service to Southern Agriculture" by *Progressive Farmer* magazine. Mr. Welch, the 21st annual award winner, was recognized for council activities aimed at eradicating the pink bollworm, its efforts in cotton quality improvement programs, and various production conferences.

Harry B. Fenn Jr., has been appointed manager of dyestuff sales for National Aniline Division of Allied Chemical & Dye Corp. Mr. Fenn, formerly West Coast resident manager, assumes a newly-created position at the company's general office in New York City. He attended Lowell (Mass.) Technological Institute and joined National Aniline in 1936. He is a member of the American Association of Textile Chemists & Colorists.

Eric N. Blackstead has been elected vice-president of Sun Chemical Corp., Long Island City, N. Y., and general manager of its chemicals group. He was formerly vice-president and general manager of Ansbacher-Siegle, manufacturer of certified colors. Mr. Blackstead is a graduate of Drexel Institute and began his professional career with Ansbacher in 1927 as chief chemist.

Clifford O. Morgan has been named superintendent of the Hawthorne Plant and rug unit of The American Thread Co. at Clover, S. C. Prior to his employment with American Thread, he had been associated with Dixie Mercerizing Co., Chattanooga, Tenn.; American Yarn & Processing Co.; Mt. Holly, N. C.; and Mackintosh Spinning Mill of Clover. Mr. Morgan replaces W. L. Rankin Jr., who recently resigned to accept a position with another company.

Arno F. Haas has been named superintendent of dyeing and finishing at Neisler Mills, Kings Mountain, N. C., division of Massachusetts Mohair Plush Co. Inc. Mr. Haas has been previously connected with the International Processing Co., the Manhattan Print Works and Pennsylvania Textile Mills.

Richard G. H. Knight, formerly general superintendent of the Dana Warp Mills Division, has joined the Neisler Mills Division of Massachusetts Mohair Plush Co. Inc., Kings Mountain, N. C., as superintendent of Mayo, Palmetto, Belmont No. 1 and Belmont No. 2 yarn mills.

Thomas J. Manning has been made plant manager of the new Cutler-Hammer plant now under construction at Lincoln, Ill. Mr. Manning joined Cutler-Hammer in 1941 as standards engineer. In 1953 he was made superintendent of the electrical firm's New York works.

Don W. Lyon has been appointed assistant general sales manager of the Libbey-Owens-Ford Glass Fiber Co., Toledo, Ohio. Mr. Lyon has been with the company for 19 years.

A number of graduates of Georgia Tech, in the textile industry, have been named to the 1957-58 board of trustees of the school's national alumni association, according to Charles R. Simons, president. Elected for a three-year term was Joe L. Jennings, executive vice-president of the West Point (Ga.) Mfg. Co. Appointed to a one-year term was J. M. Cheatham, president of Dundee Mills Inc., Griffin, Ga. Continuing on the board are Morris M. Bryan Jr., president of the Jefferson (Ga.) Mills Inc., and Joe K. McCutchen of J & C Bedspread Co., Ellijay, Ga.

OBITUARIES

Enoch Piercel Bowen Jr., president of Tifton (Ga.) Cotton Mills, died recently. Mr. Bowen was a director of the Bank of Tifton, vice-president of Tifton Investment Co. and vice-president of Tifton Peanut Co.

William Leslie Dale, 45, Cherryville, N. C., textile man, died at Duke Hospital in Durham, N. C., November 27. Mr. Dale was superintendent of the Dora Mill in Cherryville. Prior to that he had been associated with Clover (S. C.) Spinning Co. and Precision Gear Co. of Charlotte, N. C. He leaves his widow, two sons, two daughters, three brothers and three sisters.

Eliot C. Foster, 63, purchasing agent of Draper Corp., died on November 21 in Grove City, Pa., while on a business trip for the company. Mr. Foster joined Draper 14 years ago, and has served as purchasing agent for the past eight years. His survivors include his widow and a daughter.

Roy C. Johnson, 59, textile official of American & Efird Mills in Mt. Holly, N. C., died this month. Mr. Johnson was a supervisor with Firestone Textiles for ten years and was with Textiles-Incorporated

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for ten years. Surviving are his widow, two daughters, two sons, four brothers and three sisters.

Albert T. Matthews, 80, retired general manager of B. F. Goodrich Textile Products, a division of The B. F. Goodrich Co., died November 30 at his home in Thomaston, Ga. Mr. Matthews was the first general manager of the B. F. Goodrich textile division when it was established in 1928 and retained that position until his retirement in 1942. Born in Thomaston, he graduated from Robert Lee Institute and studied electrical engineering at Georgia Tech. Surviving are his widow, three daughters, seven grandchildren.

C. Robert Mitchell, 63, district manager of J. E. Rhoads & Sons Co., belting firm, died recently. He was an associate member of the Cotton Manufacturers Association of Georgia. He had been with Rhoads for more than 35 years. He is survived by his widow, a daughter, his father, two sisters and seven brothers.

J. Matt Spearman, 74, superintendent of the Ariail Plant of Alice Mfg. Co. in Easley, S. C., from the time of its construction until his retirement in 1946, died recently in Easley. He spent 63 years in the textile industry.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

BELMONT, N. C.—Majestic Manufacturing Co., local textile mill, recently celebrated its 50th anniversary. The mill is one of the Stowe-Lineberger family of mills. Officers of the company are S. P. Stowe Jr., president; S. P. Stowe Sr., vice-president; R. Dave Hall, secretary and treasurer; J. D. Lingerfelt, superintendent.

TIFTON, GA.—Tifton Cotton Mills here has been awarded a certificate of meritorious service for employing the physically handicapped. The certificate was presented to the company by the Vocational Rehabilitation Department of the Department of Labor.

NEW ORLEANS, LA.—Lane Cotton Mills of New Orleans will shut down December 31, according to Joseph G. Shedd, vice-president and general manager. Comer Machinery Co. has been named to sell machinery. Mill equipment includes some 42,000 spindles and 1,400 looms.

GUNTERSVILLE, ALA. — Lakeside Mills, Guntersville's largest industry, will go out of business on January 1, according to The William L. Barrell Co., owner of the mill. Both the mill and its equipment are up for sale. A portion of the equipment will be transferred to other plants operated by Barrell.

LUMBERTON, N. C.—A $1 million Southern unit of the Vel-Cord Corp. of Fall River, Mass., widely known concern in the cloth finishing field, will be established in Lumberton. The announcement was made recently by Lester Golden, Vel-Cord president. Annual payroll for the plant will be approximately $1 million. No date was given for the opening of the unit.

ROCKINGHAM, N. C.—Safie Manufacturing Co. will shut down its cotton mill here indefinitely. The plant, which makes greige print cloths and broadcloths, has been owned by Safie Brothers Co. in New York City for 13 years. The company employed 1,000 persons with a weekly payroll of $60,000.

GREENSBORO, N. C.—A gain of 42 per cent in profits from operations for the fiscal year ending September 28 was announced by Pacific Mills, controlled by Burlington Industries Inc. Net sales of $81,117,000 were recorded this year as compared with $83,325,000 last year. Net earnings from operations were $1,257,000 or $1.31 a share. This compares with net earnings from operations of $885,000 or 92 cents a share last year. The 1957 profit does not give effect to the non-recurring net loss of $204,000 on the sale of properties and equipment in Lawrence, Mass. The reported profit for 1956 does not include a non-recurring net capital gain of $3,447,000 realized on the sale of the cotton division fixed assets. Income taxes were $1,713,000 in 1957 as compared with $811,000 the previous year.

YORK, S. C.—Announcement of the re-purchase of the cotton spinning plant of York Textile Mfg. Co. by York Mills Inc. was made recently. The company says the mill is being renovated, and that no product has been selected for manufacture at the plant as yet.

PENDLETON, S. C. — Re-opening of the Blue Ridge Yarn Mill, here, closed since May, will come soon after the first of the year. A new corporation, Cheney Brothers-Southern Inc., is being formed for the production of velvet and decorative fabrics at the mill. The new company is an affiliate of Cheney Brothers Inc. of Manchester, Conn., a wholly-owned subsidiary of La France Industries.

DURHAM, N. C. — Net sales of $59,758,285 for the fiscal year ended September 30, were shown for Erwin Mills here, as compared with $61,809,637 for the same period last year. Net profits were $1,531,659 after taxes or $1.41 a share as compared with $1,724,807 or $1.59 last year. Profits before income taxes were $3,211,128 as compared with $3,332,719 last year.

GREENWOOD, S. C. — An IBM machine valued at $250,000, which will compute earnings, taxes, insurance and other payroll deductions and production efficiency at a rate of 33 employees a minute, has been installed at the main office of Greenwood Mills. The company says the machine was bought in order to control the increasing work load and to promote a more modern and efficient textile organization.

NEW YORK, N. Y.—A decline in profits of 58.9 per cent for the third quarter has been reported by M. Lowenstein & Sons Inc. A 44 per cent decline was shown in profits for the first nine months of the year. Sales for the company, however, showed an increase of 4.5 per cent during the three-month period and 3.8 per cent for the nine-month period. A 25-cent stock dividend was declared by the company for the quarter. Net income for the last quarter was $444,755 or 15 cents a common share. For the third quarter last year, net income was $1,082,921 or 38 cents a share. A total of $2,735,519 in net income or 96 cents a share was shown for the first nine months of the year, as compared with $4,885,773 or $1.70 a share for the corresponding period last year.

CLINTON, S. C. — Clinton Cotton Mills and Lydia Cotton Mills, here, will close down for Christmas, according to P. S. Bailey, president of the two mills. The mills will shut down on the morning of December 21 and will re-open on the morning of December 30. All employees who have been continuously employed for five years or more will receive one week's pay at the regular pay period.

CHATTANOOGA, TENN.—Standard-Coosa-Thatcher Co. reported recently in their employee publication a total income of $22,080,846 for the year 1957. Of that amount, $773,328 or 3.5 per cent was reported to have gone into dividends. Raw materials accounted for $9,366,845 or 42 per cent. Wages, salaries and operating expenses took $10,837,685 or 49 per cent, according to the report. Taxes of $1,067,971 were paid and $35,017 was reinvested in the business.

GASTONIA, N. C.—A drop of 30 per cent in net profits has been reported at Textiles-Incorporated, an 11-mill chain, for the fiscal year ended September 28. Net sales were shown as $28,221,528 against $29,708,033 in 1956, a drop of five per cent. It was the lowest net earnings for the company since 1954. The sales volume was considered good in view of the fact that the company has topped it only three times in its history. Book value of common stock was listed at $23.87 as compared with the 1956 figure of $23.11.

DURHAM, N. C.—Net sales for Erwin Mills Inc. were down to $59,758,285 for the fiscal year ended September 30 as compared to $61,809,637 net sales in 1956. Profit for this year was shown as $1,531,659 to $1,724,807 for last year. Dividends declared were shown at 75 cents. Book value of the stock, however, is up to $25.64 for this year as compared with $24.97 last year. Profit before income taxes was $3,211,128.35 this year to $3,332,719.32 for last year.

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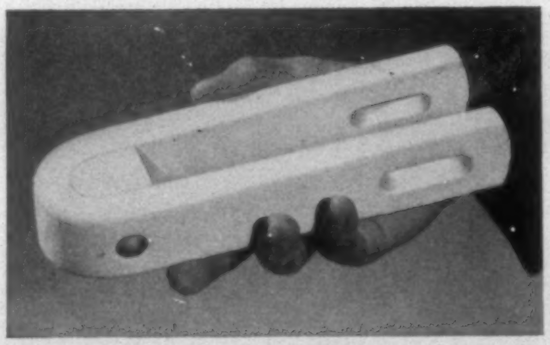

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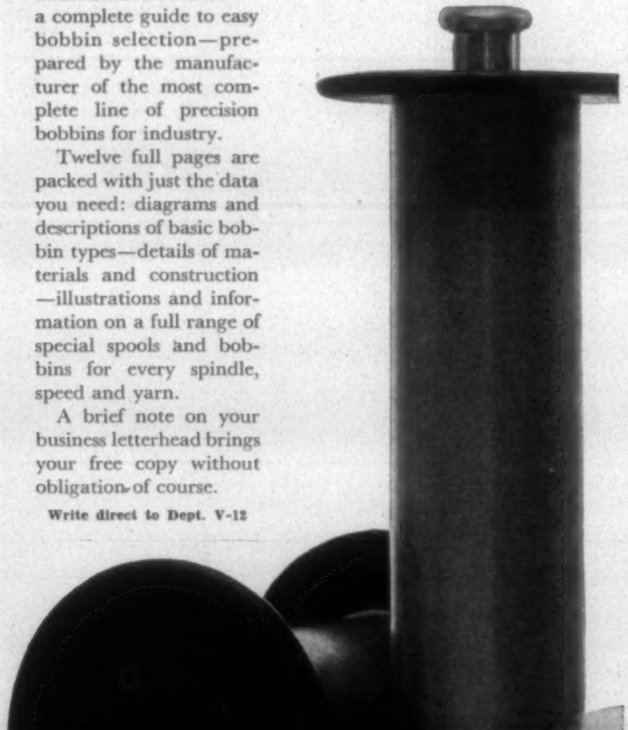

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Wood Awarded A.A.T.C.C. Olney Medal

P. J. Wood

P. J. Wood, technical director of Royce Chemical Co. and past president of the American Association of Textile Chemists & Colorists, was presented the Olney Medal of the A.A.T.C.C., the association's highest award, at the group's annual convention last month in Boston, Mass. The medal was presented by George O. Linberg, vice-president of Synthron Inc., and president of the A.A.T.C.C., at a special luncheon.

Mr. Wood, a charter member of A.A.T.C.C., served as president in 1931 and 1932. By virtue of that service he is a permanent member of the group's governing council. Born June 21, 1880, in Leeds, England, Mr. Wood was educated in English schools, receiving a diploma in chemistry and dyeing in 1898 from the University of Leeds. Following graduation from Leeds, he served three years as an apprentice with William Grandage & Co., Bradford, England, and then returned to the University of Leeds as lecturer in the department of tinctorial chemistry and dyeing, for a period of two years. He then came to the United States, and from 1903-1906 was chief chemist at American Silk Dyeing & Finishing Co., Hawthorne, N. J., following which he became superintendent of Peerless Finishing Co., Nyack, N. Y., until 1908. From 1908 until 1934, he was vice-president and manager of Oriental Silk Printing Co., Haledon, N. J. After two years consulting work, he joined Royce Chemical Co., Carlton Hill, N. J., as technical director, his present position.

In addition to his A.A.T.C.C. past presidency and charter membership, Mr. Wood is also a life member of the Chemists Club, New York; a fellow of the American Institute of Chemists; fellow of the Textile Institute (England); and fellow of the American Association for the Advancement of Science. He has been secretary of the Passaic Valley Subsection of the American Chemical Society, and secretary of the Colorists Club for 15 years.

Previous winners of the Olney Medal are: 1944—Louis A. Olney; 1945—Milton Harris; 1946—William H. Cady; 1947—Edward R. Schwarz; 1948—Harold M. Chase; 1949—Charles A. Seibert; 1950—George L. Royer; 1951—Raymond W. Jacoby; 1952—Werner von Bergen; 1953—Roland E. Derby; 1954—William D. Appel; 1955—Miles A. Dahlen; and 1956—Walter J. Hamburger.

Lehne Is President Of Dallas Textile Club

Arthur G. Lehne, M. Lowenstein & Sons, has been elected president of the Dallas (Tex.) Textile Club, succeeding Frank Pillsbury, Avondale Mills. Other officers are: Harold Kuhne, vice-president; Jess Gooch, Springs Mills, secretary; and Bernard Bitterman, treasurer. The new officers were announced at the club's regular December monthly luncheon.

A.C.M.I. & N.F.T. To Consolidate May 1

Consolidation of the American Cotton Manufacturers Institute and the National Federation of Textiles, bringing together the cotton, man-made fibers and silk segments of the U. S. textile industry, will become effective May 1, 1958.

A joint announcement by L. G. Hardman Jr., of Commerce, Ga., president of A.C.M.I. and Andrew J. Sokol of New York, N.F.T. president, said preliminary details had been worked out and that an agreement setting forth provisions of the consolidation had been signed.

The N.F.T. organization will be dissolved by May 1 and a man-made fibers and silk division of A.C.M.I. will be formed, to operate in the present N.F.T. quarters in New York, at 389 Fifth Avenue. The New York office of A.C.M.I., of which John W. Murray has been director since 1949, will be operated in conjunction with that of the man-made fibers and silk division.

The agreement provides for the appointment of a man-made fibers and silk committee by A.C.M.I. to work closely with the man-made fibers and silk division.

Provision is also made for the election of three members of the A.C.M.I. board of directors from the present N.F.T. membership, as well as two members of the A.C.M.I. executive committee and membership on other A.C.M.I. standing committees. A.C.M.I. will continue to operate the services now being provided by N.F.T. in accordance with direction from the A.C.M.I. board of directors.

Gaston Tech To Receive Improvements

Bids were advertised earlier this month for extensive renovations and some buildings for the new home of Gaston Technical Institute in Gastonia, N. C. The institute will move from temporary classroom quarters into three brick buildings given the University of North Carolina by Firestone Textiles. The institute is a branch of North Carolina State College.

Bids call for alterations to the three buildings and additions including an office wing and a library.

Dun & Bradstreet To Mail Requests

Dun and Bradstreet Inc. has announced that it will soon be mailing its annual request for financial statements to approximately three million businesses. The requests will go to every wholesaler, manufacturer and retailer who seeks or grants commercial credit. The information obtained is used by subscribers of the company to determine the advisability of granting credit or insurance.

Atlanta Textile Club Elects Harris

Charles A. Harris Jr., Iselin-Jefferson Co. Inc., is the new president of the Atlanta (Ga.) Textile Club. He succeeds J. Frank Stovall, Joshua L. Bailey & Co. Inc. William F. Craig, Dan River Mills Inc., was elected vice-president; Everet E. Clark, Turner Halsey Co., secretary; and Brooke Montague, Beacon Mfg. Co., treasurer. The elections were held at the club's December meeting.

Train Made Official Of Textile Association

Robert Train, president of Bibb Mfg. Co., Macon, Ga., has been appointed vice-chairman of the Georgia-Alabama Textile Traffic Association. Mr. Train also serves as chairman of the Cotton Manufacturers Association of Georgia's Traffic Committee. R. W. Harrell, traffic manager of West Point Mfg. Co., West Point, Ga., has been named chairman of the traffic association's board. Directors for the association for the coming year are: R. W. Harrell, West Point Mfg. Co.; Robert Train, Bibb Mfg. Co.;A. U. Priester Jr., Hillcrest Division, Callaway Mills Co., LaGrange, Ga.;

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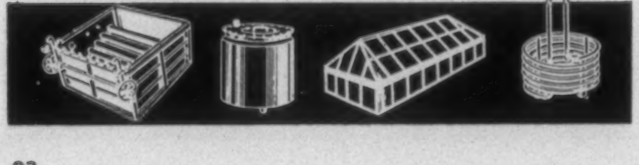


G. Howard Smith, Pepperell Mfg. Co., Lindale, Ga.; George Mills, traffic manager, Courtaulds (Ala.) Inc.; J. G. H. Morris, Adelaide Mills, Anniston, Ala.; W. A. Turner, Avondale Mills, Sylacauga, Ala., and Thomas S. Morgan, International Corp., Atlanta, Ga.

Mill Employees May Attend Clemson

The possibility of a Summer school conducted for mill employees was discussed at Clemson College, Clemson, S. C., last month by trustees of the J. E. Sirrine Textile Foundation. The foundation is the means through which the industry aids the Clemson College School of Textiles. No positive action was taken on the matter. Clemson this year enrolled 94 textile freshmen (as compared with 79 last year) while N. C. State had 62, Georgia Tech 28 and Auburn 46.

Cotton Ginning Under Study In Ohio

Research on improved methods and equipment for ginning cotton is being conducted at Battelle Memorial Institute in Columbus, Ohio, by a team of technologists, headed by Howard C. Davis. The work is being conducted under contract to the United States Department of Agriculture. The study will attempt to discover if there is any way ginning can be basically improved.

The one-year study will include a search of technical literature to find out what has been suggested previously for improved ginning. The team will not work out the details of new equipment or methods, but will simply evaluate the ideas uncovered in the investigation.

Non-Woven Fabrics To Be Discussed In N. Y.

The New York Board of Trade's symposium on non-woven fabrics will be held January 28, 1958, at the Hotel Sheraton-Astor. The production, end-uses, methods of distribution, consumer reactions and future applications on non-woven fabrics, will be covered by a panel of persons experienced in these phases of the textile industry.

Shuttle Shuttles Steadily For Three Years

A three-year-old shuttle in the Jefferson (Ga.) Mills has been named "Old Ironsides" because of its longevity. "Old Ironsides" has been in operation for three years and three months on loom No. 211. A great deal of discussion has been held in the plant about just who installed the historic piece of equipment and who started it in operation. No definite conclusions have been reached.

The company is conducting a contest to see who can guess most nearly the number of miles the shuttle travelled in three years and three months of operation, with the seasonally appropriate prize of a fruit cake.

Labor Law Recommendations Disclosed

The Administration's 1958 labor law recommendations to Congress have been disclosed by Secretary of Labor James P. Mitchell. Mr. Mitchell says Congress will be asked to legislate against coercive secondary boycotts; to require a secret vote for election of union officers; to curb organizational picketing; and to require unions to file details of annual financial reports with the Labor Department. The Administration will also appeal for extending the Wage-

Hour Act coverage to industries presently exempt, including retailing and service trades.

Continuation Of Geneva Reservation Urged

Continuation of the Geneva Reservation on wool cloth imports is "equally or more urgent and compelling" than when it first was activated in 1956, according to Edwin Wilkinson, executive vice-president of the National Association of Wool Manufacturers. Mr. Wilkinson's statement was prepared for a hearing on the reservation by the U. S. Committee for Reciprocity Information which is studying the effects of the tariff-quota imposed under the reservation.

The committee has asked for suggestions on the tariff-quota's future operation. Its recommendations will be for the guidance of President Eisenhower.

According to Mr. Wilkinson, the U. S. textile industry's chief foreign competitors in 1955 had more looms than the U. S. industry and the industry in this country has further contracted. A 50 per cent contraction in the textile industry in America has occurred since 1947 when the U. S. agreed to the steep cut in cloth duties, according to Mr. Wilkinson's statement.

"Shipments from Japan . . . have jumped from a little over 200,000 square yards in 1953 to more than six million in 1956, making Japan the second largest source of imported wool cloth," he said. Substantial increases were also shown in the imports from other countries, according to Mr. Wilkinson.

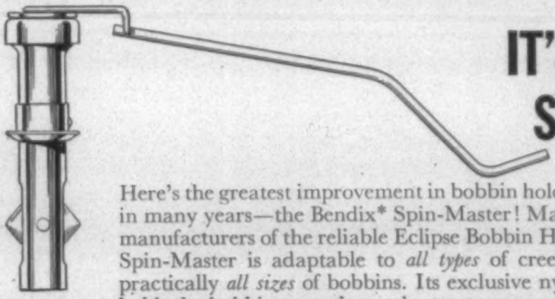
He repeated the N.A.W.M.'s position that the reservation provides for categories of fabrics. He said that with statistics now available on both imports and U. S. production, categories could be set up on five fabric-weight categories. Under this system, the duty would rise in any category when imports exceeded the five per cent trigger point.

Upturn Predicted In Textile Cycle

With prices at the bottom for many years and curtailment of production an important feature of current markets, a turn in the textile cycle is now overdue, W. Ray Bell, president of The Association of Cotton Textile Merchants of New York, stated recently in the organization's 26th annual survey.

Three previous downward swings in cotton textiles have occurred in the postwar period, Mr. Bell noted, and "each of these downswings of the textile cycle was followed by an equal or longer period of higher production and improved market values." The current downward movement in production and mill activity, he noted, "started in mid-Summer of 1956 and has continued for a total period of 16 months through October of this year." As prior downward adjustments have run from 12 to 15 months, "the timetable of past experience would indicate," he said, "that an upturn is overdue."

Production of cotton textiles, according to figures compiled by the association, reached a peak since the war years in calendar year 1956 when 11,528,751,000 square yards were produced as a consequence of the cyclical upswing which carried well through the first half of that year. Since that time adjustments have developed month by month, particularly through 1957, and are now being intensified



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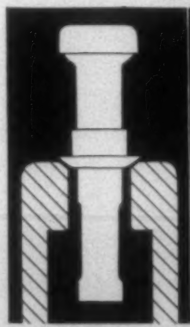
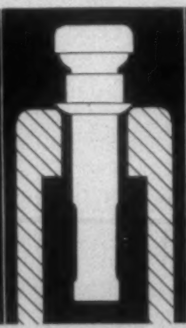
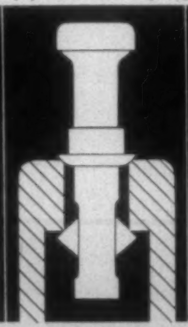


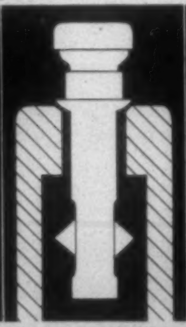
Bobbin holder slides easily and freely into top of bobbin. Nylon latch is concealed within the barrel of the holder.



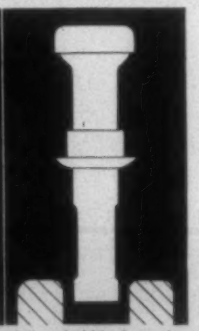
Bobbin is pushed up against collar of bobbin holder. At this point, latch is still concealed inside the bobbin holder.



As bobbin is allowed to drop, collar of bobbin holder slides down to original position and latch snaps into place, suspending bobbin.



To release bobbin from holder, the bobbin is again pushed up, raising the collar of the holder. Latch is still securely in place.



When bobbin is again allowed to drop, latch retracts into body of bobbin holder, so that bobbin may be easily removed.

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by a program of reduced activity in important market areas for the last quarter of the year. In over-all yardage output, the report noted, "deeper cuts for three successive quarterly periods in 1957 have reduced total yardage of new production by approximately 600 million square yards from the corresponding period of the preceding years." Percentagewise, this amounts to about seven per cent, and the last quarter cut is likely to prove greater.

Curtailment, featured by elimination of Saturday operation, extended vacation periods and in some cases the four-day week, has also been emphasized by elimination of 673,000 spindles in place in 1956, followed by a 392,000 mortality in the first nine months of 1957. The number of spindles consuming cotton only is currently 18,147,000 or nearly a million less than in 1956. "Dismantling of these marginal spindles amounting to five per cent over the past two years insures a further reduction in potential capacity and eliminates them permanently from active market competition." In a later recovery such spindleage will be missed since the average running time per spindle "has become less flexible."

"Market recovery will begin," Mr. Bell predicted, "when the buying trades regain sufficient courage to prepare for future business with confidence. Usually this takes the prod of advancing prices or inability to obtain immediate delivery on wanted merchandise. How soon these conditions will obtain cannot be forecast, but the industry has now come to grips with its basic problem of producing against demand and not for speculation." In avoidance of overproduction, he saw a healthy trend toward creating inventory demand, particularly with evidence that stocks in distribution are subnormal. "The approaching halt of mill accumulations should mean the final step in our return to a healthy and vigorous market."

Market recovery could well be advanced if the U. S. government were to abandon policies of discrimination against domestic mills, Mr. Bell said. He pointed out that cotton is held in this country at prices 20 to 25 per cent above levels at which the government sells the same cotton to mills overseas, often financing these sales to foreign competitors. Shrivelled tariff rates are inadequate to equalize the vast advantages enjoyed by foreign mills in raw material and labor costs. While the Japan agreement has afforded partial relief from imports, no quantitative restrictions apply to other countries and Hong Kong's textile exports to the U. S. have increased tenfold. The damaging effect of cheap foreign textiles continues to retard domestic recovery, he said, and the industry must fight for fair and equitable treatment for recognition by our government.

Chemical For Hybrid Cotton Shows Promise

Hybrid cotton, a possibility of immense potential significance to the cotton industry, appears to have moved a long step closer to realization through the work of a University of California scientist and the U. S. Department of Agriculture, utilizing a new chemical developed by research chemists of the Rohm & Haas Co.

The scientist is Dr. Frank M. Eaton, plant physiologist currently at the University's Citrus Experiment Station at Riverside, Calif. In 1955, while Dr. Eaton was a member of U.S.D.A.'s nation-wide corps of field research workers, he was supplied by Rohm & Hass with an experimental sample of a chemical known as FW-450. Dr. Eaton's work with the material continued after he retired from the department six months later, and the results of the work now give promise of making hybrid cotton a commercial reality in the future. The chemical name of FW-450 is sodium alpha, beta-dichloroisobutyrate. Its biological activity is designated as that of a "selective gametocide," that is a material which inactivates the male or pollen producing part of the flower without impairing the normal functioning of the female part.

Mitchell To Head Textile Division, A.S.M.E.

Nathaniel M. Mitchell, head of Barnes Textile Associates, Boston, was elected chairman of the textile division of the American Society of Mechanical Engineers this month at the annual meeting. He succeeds Harold W. Ball, chief engineer, Foster Machine Co., Westfield, Mass. R. E. Parker, the General Electric Co., was elected treasurer succeeding Victor F. Sepavich of Crompton & Knowles Corp., Worcester, Mass. Fred D. Snyder, Westinghouse Electric Corp., was re-elected secretary.

Chemstrand Provides Scholarships

A fund providing undergraduate scholarships and grants-in-aid at 30 colleges and universities in this country has been announced by Chemstrand Corp., Decatur, Ala. The scholarships are for upperclass students, preferably seniors, in many technical fields including textile engineering.

Among the schools which have received scholarships and grants are: Alabama Polytechnic, Auburn; Georgia Institute of Technology, Atlanta; Lowell (Mass.) Technological Institute; and North Carolina State College in Raleigh.

Plant Maintenance Conference In Chicago

The Plant Maintenance and Engineering Conference, to be held in Chicago, Ill., January 27-30, is expected to attract more than 2,500 engineers. Some 66 speakers from 22 states will address the 25 sessions. The exposition held in conjunction with the conference is scheduled for the International Amphitheatre and will include exhibits valued at more than $7,500,000. Twenty thousand executives from 30 countries are expected to attend the exposition.

Materials Handling Meeting Set For June

A national conference on materials handling, first to be sponsored by the American Society of Mechanical Engineers since 1949, will be held at the Public Auditorium in Cleveland, Ohio, June 9-12. It will be held in conjunction with the National Materials Handling Exposition. According to John C. Somers, chairman of the society's materials handling division, materials handling is the very backbone of automation.

Woolen And Worsted Fabric Production Down

Production of woolen and worsted fabric during the third quarter of 1957 was 74.9 million finished linear yards, six per cent below the comparable period of the previous year, the U. S. Department of Commerce reports. This quarter's production was six per cent below that for the second quarter of the year.

The output of women's and children's clothing fabrics at 39.9 million finished linear yards was four per cent below that of the second period and two per cent above the

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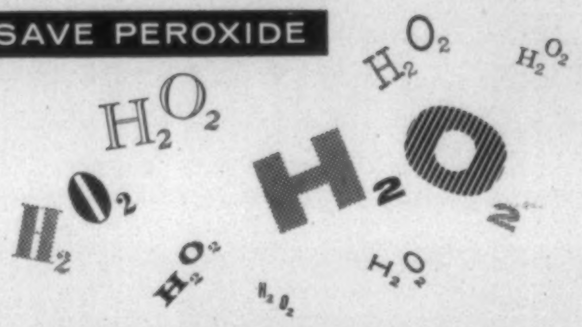

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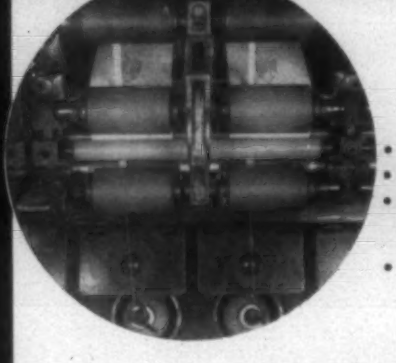

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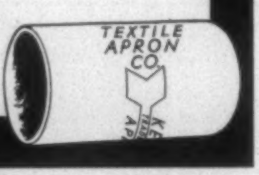
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output for the third period of 1956. Men's and boys' clothing fabric production was 30.3 million finished linear yards or 15 per cent below that of the second quarter.

Production of non-apparel fabrics was 15 per cent above the previous quarter. The output of blanketing increased 33 per cent to approximately 2.3 million yards. Some 1.5 million yards of transportation upholstery and other non-apparel fabrics were produced during the third quarter.

November Rayon And Acetate Yarn Shipments

Shipments of rayon and acetate yarn and staple by U. S. producers totaled 91,500,000 pounds in November, a decline of seven per cent from the previous month and 6½ per cent under November 1956 deliveries, according to the *Textile Organon,* statistical bulletin of the Textile Economics Bureau Inc. Over the first 11 months of the year, producers' shipments aggregated 1,028,300,000 pounds, a figure close to the 1,032,000,000 pounds shipped in the corresponding period of 1956. Deliveries in November this year comprised 90,000,000 pounds to domestic consumers and the balance for export.

High tenacity rayon yarn deliveries in November came to 26,100,000 pounds, an increase of 5½ per cent over the October level and 2½ per cent greater than shipments in November last year. Shipments of regular+intermediate tenacity rayon yarn last month amounted to 12,500,000 pounds, a decline of 9½ per cent from October and 22 per cent below November 1956. Acetate filament yarn shipments in November totaled 19,300,000 pounds, a figure slightly below October but 800,000 pounds or 4½ per cent over shipments in November last year.

Rayon staple+tow shipments last month totaled 29,300,000 pounds, a decline of 13 per cent from both the previous month and November 1956. Acetate staple+tow deliveries at 4,300,000 pounds were off 1,800,000 pounds from the October level but about equal to November 1956 shipments of 4,400,000 pounds.

Production of rayon and acetate last month exceeded shipments, resulting in an increase in producers' stocks to 124,800,000 pounds at the end of November. On Nov. 30, 1956, producers' stocks were 106,300,000 pounds or 15 per cent lower than at present.

Imports of rayon staple in September came to 5,256,000 pounds. For the first nine months of 1957, imports aggregated 64,454,000 pounds, 6½ per cent less than imports in the corresponding period of 1956. Imports of non-cellulosic man-made staple in September totaled 25,000 pounds compared with 42,000 pounds in August. For the first nine months such imports, however, aggregated 354,000 pounds or 25 per cent more than imports in the January-September 1956 period.

The *Organon* capacity survey on the U. S. man-made fiber producing industry shows current capacity at 2,302,000,000 pounds annually. By next July this capacity is expected to increase by six per cent to 2,436,000,000 pounds. The projected capacity as of March 1959 is placed at 2,521,000 pounds annually and a further increase to 2,594,000,000 pounds is expected by November 1959. The *Organon* cautions that the data presented are only a capacity porduction survey and they are not to be regarded as a forecast of actual production for any period.

The current annual capacity of the rayon producing segment of the man-made fiber industry is 1,153,000,000 pounds, according to the *Organon.* This capacity comprises

638,000,000 pounds of filament yarn+monofilaments and 515,000,000 pounds of staple+tow. By July of next year this total is expected to decline slightly to 1,148,000,000 pounds which encompasses an anticipated decline of 25,000,000 pounds in the rayon filament yarn capacity to 613,000,000 pounds and an increase of 20,000,000 pounds in the rayon staple+tow capacity to 535,00,000 pounds per year.

Acetate capacity, according to the *Organon,* is now placed at 382,000,000 pounds comprising 292,000,000 pounds of filament yarn+monofilaments and 90,000,000 pounds of staple+tow. No change is indicated over the next two years.

The *Organon* reports that the present annual capacity of the non-cellulosic man-made fiber producing industry is 627,000,000 pounds composed of 397,000,000 pounds of filament yarn+monofilaments and 230,000,000 pounds of staple+tow. Increases are anticipated for each period through November 1959 when capacity is expected to total 895,00,000 pounds, a 42½ per cent increase. The capacity two years hence will comprise 516,000,000 pounds of filament yarn+monofilaments, a gain of 30 per cent, and 379,000,000 pounds of staple+tow, a gain of 65 per cent over current capacity.

The present operating capacity of the textile glass fiber producing industry is reported at 140,000,000 pounds per year, and this is expected to increase gradually to 169,000,000 pounds over the next two years.

The *Organon's* annual review of the world wool situation reveals that global output in the 1957-1958 season totaled 5,020,000 pounds (greasy basis) compared with 4,960,000,000 pounds in the 1956-1957 season. The *Organon* notes that in the 1956-1957 season world wool production at 2,870,000,000 pounds (clean basis) compares with 18,000,000,000 pounds of cotton and 5,929,000,000 pounds of man-made fibers. Cotton therefore was 67 per cent of the total, wool 11 per cent and man-made fibers 22 per cent. In the prewar 1935-1940 period when output of these three fibers averaged 17,773,000,000 pounds, cotton was 77½ per cent, wool 13½ and the man-made fibers only 9½ per cent of the total.

Radioactive Cotton Fibers Used In Research

Radioactive cotton fibers have been used in research at the Shirley Institute in Manchester, England, for the purpose of enabling research workers to follow the fibers in the carding engine to find out what happens to them there. Preliminary experiments designed to test the potentialities of the method have been made and some useful information has been gained, it was reported.

A. E. De Barr, head of the spinning department of the British Cotton Industry Research Association, who disclosed the experiments said that theory is far behind practice in spinning, drafting and carding.

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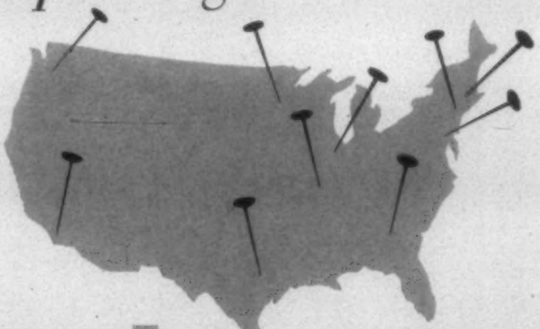

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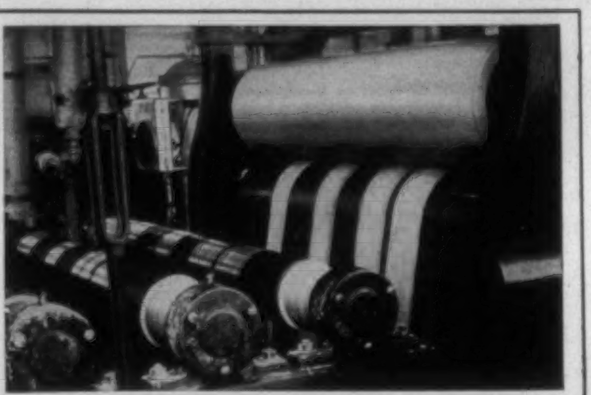

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Man-Made Fibers Show Gain In 18-Year Period

A consistent gain in the apparel and textile utilization of man-made fibers was shown over the 18 years from 1937 through 1955, according to a study by the Textile Economics Bureau Inc. The bureau gathered data on 102 end uses of man-made fibers, cotton, wool, silk, linen and the hard and soft vegetable fibers, based on material made available by the textile fibers department of E. I. du Pont de Nemours & Co. Inc.

In 1955, the final year included in the study, man-made fibers accounted for 1,743,600,000 pounds or 26 per cent of the total of 6,693,900,000 pounds in end use consumption. For the year 1937, first year of the study, man-made fibers in end use consumption accounted for 340,800,000 pounds or seven per cent of the total of 4,714,700,000 pounds of all fibers.

The respective shares of cotton in 1937 and 1955 was 79½ per cent and 64½ per cent; of wool, 12 per cent and nine per cent; of silk, 1½ per cent and less than one per cent; and of linen, less than one per cent in both periods.

Pound-for-pound comparisons of textile fibers, according to the bureau, do not accurately show the position of a fiber in the industry. On the basis of utility poundage, the full use derived from any given pound of fiber, the man-made fibers, it reports, would rank higher. The trend toward lighter weight apparel also has to be considered in studying the results of the study, it said.

October Cotton Consumption Shows Increase

Total consumption of cotton in the U. S. for the month of October rose to 819,816 running bales, according to figures released by the U. S. Department of Commerce. This marks an increase over the total of 659,651 bales for September and over the total of 726,669 for October of last year. Of the October total, cotton-growing states used 728,464 bales and New England used 32,337. This compares with 690,929 bales and 31,276 bales, respectively, used by those areas last year.

Spindle hours for the month amounted to some 11,401 million as compared with 9,909 million for October of 1956. Daily average cotton consumption for the Big Four cotton textile states for the month were: North Carolina, 9,842 bales; South Carolina, 9,122 bales; Georgia, 6,198; and Alabama, 3,639. Some 12,087,369 bales were reported in stock in warehouses in October as compared with 10,319,886 bales in September and 17,327,391 for October 1956. Of those totals, 1,284,906 bales were reported to be held by consuming establishments in October of this year, 1,079,895 in September and 1,147,035 in October 1956.

Decrease In Wool Consumption Shown

The weekly average consumption of raw wool during October was 6,073 thousand pounds (scoured basis) or 13 per cent below the September level and 33 per cent below that of October 1956 according to the U. S. Department of Commerce. Consumption of carpet class wool was at the same rate of the preceding month and 26 per cent below that for October 1956.

Average weekly consumption for fibers other than raw wool was 5,063 thousand pounds. No allowance is made for seasonal changes in the monthly totals.

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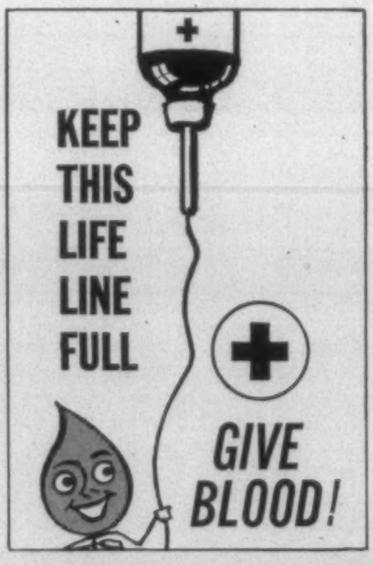

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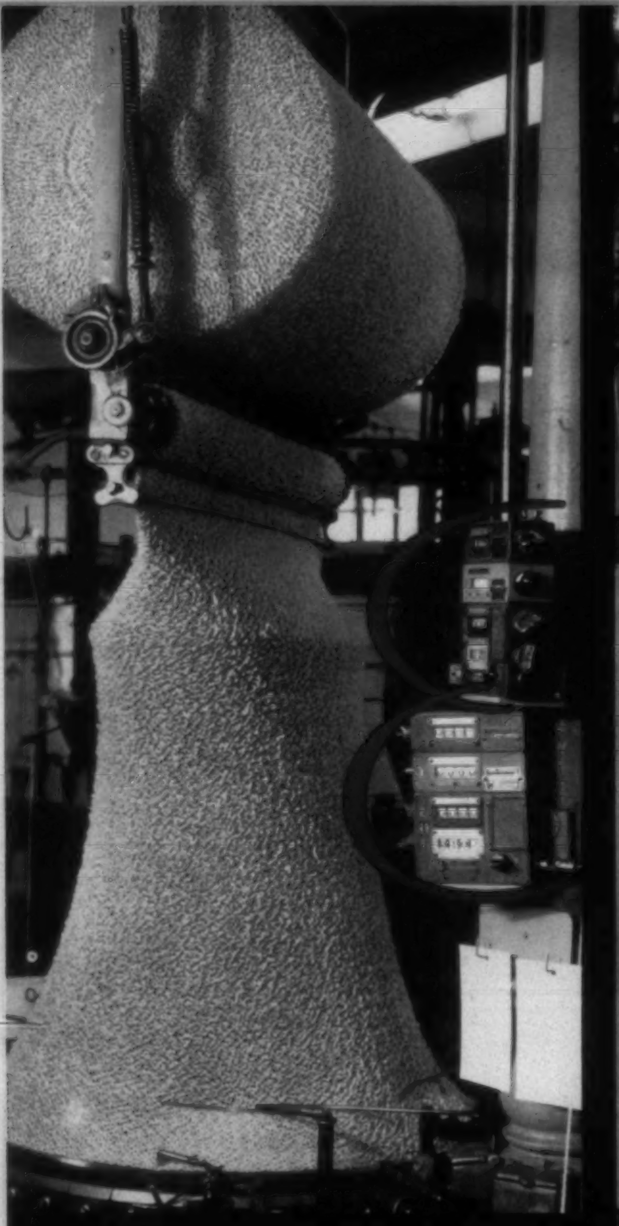

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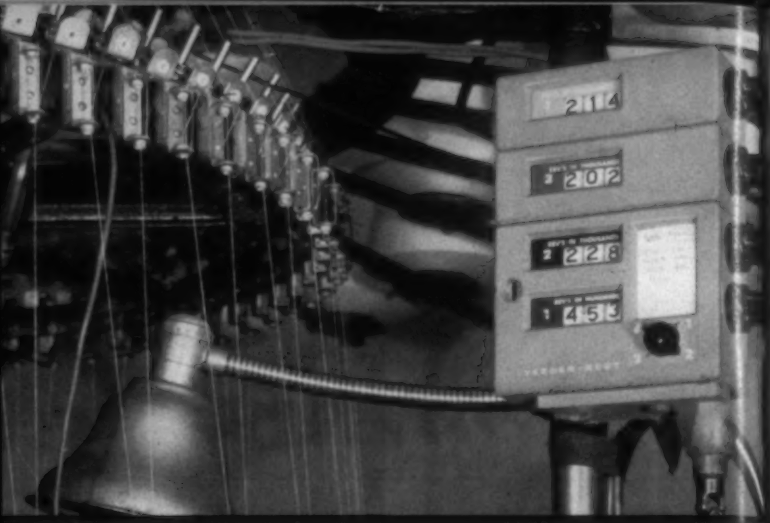

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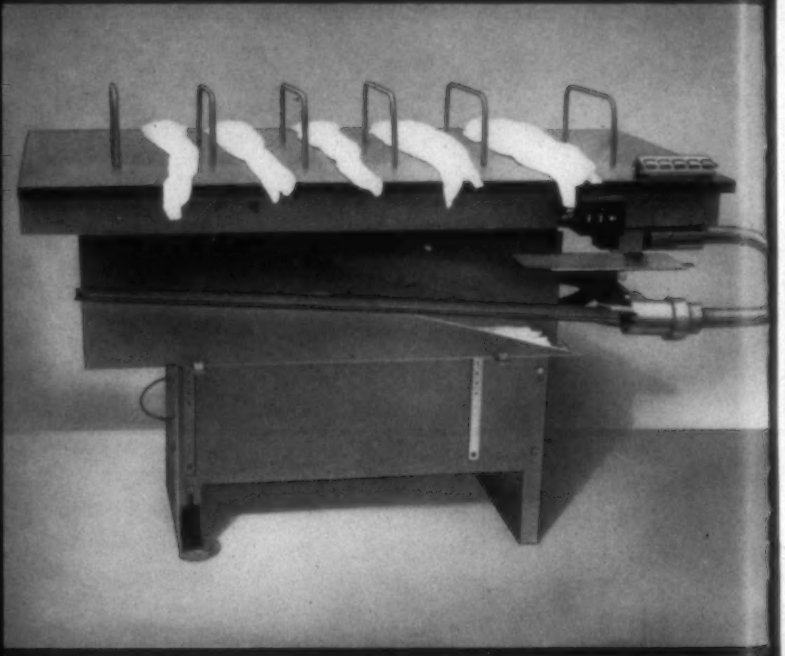

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